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CHILDREN UNDER THREE

some approaches
to stimulating
optimal development

Nutrition in Health Services

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AN INTERDISCIPLINARY JOURNAL FOR THE PROFESSIONS SERVING CHILDREN

Children Under Three—Finding Ways to Stimulate Development

I. Issues in Research 46
Lois Barclay Murphy

II. Some Current Experiments

A Three-Pronged Project 53
Sally Provence

Learning at Two 55
Francis H. Palmer

Stimulation Via Parent Education . . . 57
Ira J. Gordon

A Home Tutoring Program 59
Earl S. Schaefer

From Infancy Through School 61
Halbert B. Robinson

Parent and Child Centers—What They Are, Where They Are Going 63
Alice V. Keliher

Combating Malnutrition Through Maternal and Child Health Programs 67
Mary C. Egan

New Zealand's Dental Service for Children 72
J. G. Espie

The 4-C Program 76
Jule M. Sugarman

here and there 78

book notes 83

in the journals 85

readers' exchange 86

The newest member of a family contemplates his admirers. Chances are that for him some basic elements in intellectual stimulation are being provided, for, as the lead article in this issue points out, being played with by older children and adults not only helps a baby distinguish between different people but also, through their feedback of delight, pride, or surprise at whatever he does, enhances the importance to him of his achievements and so stimulates further efforts.

children

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LOIS BARCLAY MURPHY

Since the beginning of World War II, the U.S. gross national product (GNP)—the aggregate of its agricultural and industrial output—has steadily increased. Unfortunately, the Nation has not proportionately increased its resources for protecting its human products. Neglect of prenatal care, birth defects, nutritional needs, and appropriate infant care lies behind our poor standing among the nations in infant mortality rates—13 highly developed nations have reported rates lower than the United States.[1] It also underlies much of the distorted development of children as reflected in mental retardation, delinquency, and mental illness. This neglect has been paralleled by the country's failure to provide employment for the thousands of workers abandoned by employers as technology has superseded human labor on farms, in mines, and in factories.

As a result of such neglect of human needs, today large numbers of children throughout the Nation are unable to make use of the learning opportunities provided by the schools. Discouraged, depressed, undernourished parents become apathetic and so rear their children for passive tolerance of frustration rather than for active mastery of a skill. Too many children in lower socioeconomic groups do not learn to learn; their speech, concepts, experience, and drive to achieve are inadequate for learning. Their normal aggression is not directed into socially constructive channels, and they have little help in dealing with

CHILDREN UNDER THREE . . . finding ways to stimulate development

I. ISSUES IN RESEARCH

emotional problems, which arise more often among the disadvantaged than among other segments of the population.[2] In the past decade, however, many pressures—the space race, a personal concern about retardation on the part of persons in high office, and research reporting school failure among millions of poor children, white, black, and Mexican-American—have brought about efforts to do something about their faltering intellectual development.

The first response was legislation to provide some Federal aid to the schools, but this could do little to help the child who arrived at kindergarten or the first grade with an irreversible intellectual handicap. Then came Project Head Start to ready the preschool child for school and also some exhilarating experiments in the cognitive stimulation of preschool children, sometimes reinforced by candy rewards. But it was discovered that "Head Start was too late" and candy was not enough. Some children's IQ's did increase as they participated in these experiments, but their scores tended to lapse back again or even to get lower after they entered school. As this tendency became apparent, there came a push for cognitive stimulation of babies, based on the research efforts of learning theorists. Some of these theorists, however, were operating from their own conceptual islands, ignoring the forces of drive, motivation, affective response, constitutional factors, individual personality, and subculture values that could thwart or attenuate the effects of learning techniques and gastric rewards. Nevertheless, some cognitive stimulators even asserted that the prevention of delinquency, emotional disturbance, and a negative self-image could all be achieved through early cognitive stimulation.

Meantime, other forces were at work. The stultifying and distorting effects of sterile institutional life on children without families had led to the widespread avoidance of institutional care. Foster families were to provide the nearest equivalent to a natural family for the children who had no "real" mother or father, or no adequate parents. In some cases this goal was achieved. But in the large cities, the limited space in most families' homes and the many parentless, neglected, or mistreated children defeated efforts to find foster homes for all who needed them; moreover, the stress experienced by families who attempted to bring up foster children in a crowded urban setting led in many instances to shifts from one home to another,[3] which defeated the aim of a stable family life for these children. After a series of acceptances and rejections, many children became disturbed and alienated and as a result they had difficulties in school and the community.

The observations on which this article is based were made during work under two grants from the Public Health Service—MH10421 to the Children's Hospital of the District of Columbia and 5 R12 MH9236-02 to the Menninger Foundation, Topeka, Kans.

In response to these problems, the pendulum has swung back to a revived interest in group care, at least in the form of supplementary care during the day. This interest has become more intense as a result of the view that mothers who passively receive public assistance might better go to work and let their children be cared for in adequate day-care centers. Because of the simultaneous concern about school failures, the thinking about day care has tended to focus on cognitive stimulation, as if this were the only need to be met.

Most of the discussion of cognitive stimulation has been oriented toward children from 3 to 5 years old, but in the past 5 years children under 3 have also begun to receive attention. Under the impression that "Head Start is too late," research workers have been exploring the effects of cognitive stimulation on babies.

An underlying error

One major error underlies many failures to provide for adequate development: the notion that "We have *the* answer." There was a time when the central concern of administrators of child-care programs was to prevent infection; they thought that if the children were kept clean they would grow well. At other times, "the" answer was thought to be good nutrition, or fresh air, or activity, or freedom. And now it is cognitive stimulation. But disappointments have followed each one-track attempt to follow "the" one important prescription, as Skeels,[4] Spitz,[5] and others have shown in studying clean, but sterile, institutions. We now know that institutionalized children who are merely kept clean and well fed lack most of the ingredients for healthy personality, social, and cognitive development; and that these lacks contribute to varying degrees and kinds of deficiency and distortion—mental retardation, social inadequacy, disorganized behavior, delinquency, failure to grow, and at worst marasmus and death.

In Israeli kibbutzim and in the best day-care centers in the United States, the multiple needs of the child are met: warm, mothering caretakers provide stimulation, space for activity, time for free play, response to the child's efforts, along with lots of fresh air and good food—and a chance to experience joy. It seems paradoxical that so many recent investigators are again following a single track—cognitive stimulation through specific teaching programs—and overlooking many other aspects of development, despite evidence that nutrition, activity, emotions, and human relationships affect a child's learning.

Moreover, in many instances the idea of what learning is has been shaped by a narrow range of concepts such as vocabulary, memory, reasoning, and comprehension and by Piaget's insights regarding the child's development of time and space concepts and the conservation of objects. But the growth of a child's mind involves many cognitive functions (including complex sensory-motor and coping efforts) not measured in intelligence tests. These include, for example: differentiation between the familiar and the strange; the process of familiarization (visual and auditory examination, manual manipulation, and so forth); movement-in-space problems; combining objects; solving problems requiring manipulation; use of tools, such as the door knob, screen hook, faucet knob; self-dressing—pulling off and putting on socks; finding or creating substitutes; and clarification of relationships and experience by rehearsing them in fantasy.

Ability to do such things develops in children who are growing up in an environment where they are exposed to a variety of objects, challenges, and opportunities to use their minds and bodies and can observe the everyday problem solving of their parents and brothers and sisters. As with all aspects of mental development, development of these skills needs the support of varied experience.

Criteria for evaluation

How then shall we formulate what is needed to foster good physical, emotional, social, and cognitive development? And what criteria should guide research for evaluating programs for children under 3?

Here I list seven basic areas to consider in evaluating proposals for early child care:

1. ***Adequate nutrition***—proteins, vitamins, minerals, and other nutrients required for the physical development of the child. In many parts of the world, where infants receive insufficient protein and other nutrients, the mortality rates among children are high. A large proportion of those who manage to live are malnourished, vulnerable to infection, and retarded. Similar conditions are reported to exist among infants and small children in "hunger areas" of the United States.

2. ***Ability to deal with the baby in distress.*** How to handle the baby who has poor digestion, colic, diarrhea or constipation, or susceptibility to infection

is still inadequately understood by many child-care workers. That there are *emotional and mental consequences of distress in early infancy* is even less appreciated. Such babies need help with gastrointestinal and other aspects of basic functioning. Marked or prolonged infantile distress, or both, can contribute to anxiety, hostile reactions, withdrawal, and disturbances of perception and cognition.

3. ***Stimulation designed to meet the infants' needs, tolerance level, and capacity for enjoyment*** at different stages of sensory-motor development, emotional response, and resources for self-management. What is too much for one infant may not be enough for another. The kind and amount of stimulation provided each infant have to be based on intelligent observations made by his mother or mother-surrogate. Sensitive mothers report such observations as: "He likes bright colors"; "He minds soft noises more than loud ones"; "His bath has to be just the right temperature"; or "He can sleep in the midst of noise." One baby likes to be jounced vigorously while another likes gentle, rhythmic rocking. Visual, auditory, kinesthetic, rhythmic stimulation are each important. The proper amount of stimulation implies both protection from excessive or overwhelming stimuli, which the baby cannot manage or which disrupt his functioning, and provision of enough stimulation of satisfying kinds to encourage response.

4. ***Talking to the baby.*** This provides important support for the baby's own vocalizing efforts that are a precursor of language.

5. ***Opportunities for exercise of emerging sensory-motor functions,*** through handling toys and other objects. Such activities as touching, feeling, banging, throwing, or combining teach the baby the qualities of things and also help him develop awareness of himself, the different parts of his body and what he can do. Being played with by older children and adults helps him become accustomed to different people, to distinguish his mother or caretaker from others, and to develop flexibility in responding to and interacting with others. In addition, the adult's or older child's delight, pride, and surprise at the baby's reaction provide an important feedback to the infant and, by enhancing the importance to him of his own achievements, stimulate further efforts on his part.

6. ***Encouragement of the baby's efforts*** to make himself comfortable, amuse himself, feed himself, and master new skills. Such efforts can help the baby develop independence and an ability to cope with problems.

7. ***Continuity in a few basic, warm relationships,*** as with a mother, father, brothers, sisters, and other relatives. Such continuity contributes to the development of a stable core of self, a sense of being valued, a capacity for dependable relationships, a sense of trust, and identification with motherly and fatherly adults.

Interrelated factors

The child's emotional and affective development seems to go hand in hand with his social responsiveness. And, according to studies made among children of higher socioeconomic status, relationships also exist between social behavior and the level of language development.[6] Both superior language development and superior social and emotional development have been found to reflect the quality of family interaction. Some studies of family life that describe conversation between parents and children at mealtimes suggest that the higher level of verbal exchange found in middle- and upper-middle-class families is an integral part of the social atmosphere in families that enjoy their children and communicate with them regularly. In such families, the social and emotional interaction itself provides cognitive stimulation and contributes substantially to language development as well as to the development of perception and other cognitive faculties. Our studies at the Menninger Foundation found positive correlations between the mother's talking to the baby and the baby's vocalization, as well as between the baby's vocalization and his later IQ.[7] These findings probably reflect the mother's affective response to communication initiated by the baby as well as the baby's response to the mother.

It is astonishing that in current efforts to stimulate the intellectual development of deprived children, so little detailed analysis has been made of the day-to-day communication between parents and children in well-functioning families as compared with parent-child communication in depressed families of any specific socioeconomic, racial, or other subcultural group. Aspects of cognition stimulated by such communication also need to be studied. There is no lack of research methods. For example, Barker and Wright have provided detailed, moment-by-moment records of a child's life through one day;[8] Escalona and Leitch have provided even more detailed records on infants;[9] Leon Yarrow and his team have re-

corded in detail a baby's response to environment.[10]

Much recent research on cognitive development as such and ways of stimulating it in young children has been carried out without a sufficiently broad orientation to the total context of mental development. The procedure of some investigators might be compared to that of a man who in order to fly to Samoa equipped himself with the best airplane and took off with a plan to fly southwest without studying all the relevant factors such as headwinds, tailwinds, climatic variations at different longitudes and latitudes, or visual landmarks. The need is for a full analysis of the *total* developmental context in which learning takes place, both in formal stimulation situations (which always include factors not mentioned in the records) and within families of various socioeconomic backgrounds.

Some questions

A host of questions cry for answers: What was the atmosphere in the learning situation in which marked success occurred as compared with the situation that produced only limited success? Did the first situation involve a day-care teacher who enjoyed children and made their daily experiences happier, more fun, and thereby, perhaps, more stimulating? Is it possible that some caretakers who take a personal interest in each child evoke in the child a deeper identification with the teacher and a deeper investment in the learning process? Do some children through identification with the teacher or through other as yet unrecognized processes acquire a "drive to learn" that furthers their progress?

The lack of curiosity and drive to explore, of capacity for organization, planning, and creativity, and of the resourcefulness that these traits utilize and develop has been characteristic of many children in Head Start programs. A child needs such tendencies and capacities to clarify potential uses of his cognitive resources and to find new satisfactions in putting them to work in interesting ways. But the roots of such cognitive activity have not been adequately studied. Could it be that the relative emptiness and monotony of the environment in economically deprived homes automatically prevent the child from making comparisons, finding interesting similarities and differences, organizing experiences in exciting new ways, or trying to make an increasingly detailed and expanding "cognitive map," as children in middle-class homes must do to cope with the variety of experiences in their richer environment?

There is an urgent need to compare the effects of different experimental methods with the effects of the methods used in good "traditional" nursery schools as described in the literature.[11,12] Such a comparison, ideally, would involve a careful, comprehensive analysis of the cognitive aspects of all the activities of children in nursery school. An analysis of this kind would require fresh study of the complex processes through which the child integrates and reconstructs his observations of objects, parts of the environment, and adult roles and rehearses for future activity. These mental processes and others are involved in activities typical of good nursery school programs—for example, block construction, puzzle-solving, painting and drawing, storytelling and description of discoveries by the child, and group imaginative play. Cognitive aspects of social experience should also be studied. Such processes as learning to take turns, to work together on joint tasks, to explain feelings of anger instead of beating up or biting the offender, to plan a joint block-building project all involve cognitive efforts of varying degrees of complexity of understanding, verbal skill, sequential ideation, organization of objects and people, and useful fantasy.

Complex preschool activities like these have significance for many aspects of development in the young child, among others: (a) putting cognitive skills to work in activity the child cares a great deal about; (b) developing skills, insight, and values important as foundations for socialization; and (c) enhancing the sense of autonomy, the capacity to cope with varied life situations, and the drive to continue in the social use of cognitive resources. The child becomes self-propelling in his cognitive, affective, and social use of the environment. These beginnings imply possible next steps in research, which are foreshadowed in the discriminating reports of Herbert Zimiles.[13]

Individual differences

Another point needs emphasis. Most results of experiments in cognitive stimulation have been reported in terms of averages or means on the assumption that the only adequate measurement of change is a summary of the change in a group as a whole. Such a statistical approach has been sharply criticized by some of the world's most outstanding statisticians. One of these, C. R. Rao,[14] urges that subgroups be looked at separately to avoid the confusion of results when two contrary tendencies are

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represented in the same group. For instance, when we find that in a given group the level of cognitive functioning has decreased in some children and dramatically increased in others, we need to consider the factors behind these opposite responses. What was going on in the lives of those children whose level of functioning has decreased? Did the child become ill? Was there some severe trauma at home? Was the child disturbed by separation from home and mother? Did the child have special needs that were not met? Similarly we need to learn more about the children who made the greatest progress. Were these the children whom the teacher particularly appreciated or enjoyed, tuned in with, or felt she understood?

In other words, we need to consider the individual physiological, social, and emotional context of both negative and positive changes in cognitive development. At the same time we need more study of the differences in individual children's responses to whatever is offered or withheld—differences in what evokes interest and drive as contrasted with withdrawal, in vulnerability to deprivation, separation, and strangeness, and in capacity to cope with the stresses of life.

Research on the early years, then, must ask: What physical, emotional, and cognitive support does each child need for optimal all-round development?

A project that will attempt to answer these questions is just getting underway at the Children's Hospital of the District of Columbia. It is aimed at demonstrating the advantages for infants and young children of group care in settings that emphasize warm relationships and careful attention to the individual needs of each child. Still in a pilot stage, the project is designed on the theory that only comprehensive support for the infant's physical, mental, and personality development will be adequate.

The project will attempt to provide the baby with a foundation for developing a strong healthy body and emotional stability, a trusting but independent outlook, curiosity and a drive to learn, responsiveness to and considerateness of other people, and a capacity for participating in social endeavors. In one group each child's mother or mother substitute will receive help closely related to the needs of her child in the belief that if the gains from a good beginning are to be maintained, the child's mother must be helped to understand his needs and to use the community resources to strengthen her family life. She will also receive training and education that will develop her own potentialities, confidence, and determination to further support her children's development. The program is bound to be expensive, but its potentialities are great, especially since attention to each child's individual maturational tempo, areas of sensitivity, and range of interest is rarely included in experimental programs.

Varied approaches

Many if not most experiments in cognitive stimulation work with a selected group: one, for example, excludes infants with birth defects or evidence of retardation, and those whose mothers suffered complications in childbirth or have been mentally ill—problems most frequent in low socioeconomic groups. The result is that only the "cream" of the poor are the subjects of the experiment. Another experiment selects children whose mothers agree in one interview to cooperate with the study, thus omitting the children of mothers who are shy, suspicious, or uncooperative. Other experiments only take children whose families give evidence of stability of residence or whose homes are free from crowding or other disturbing conditions.

These and other criteria for sample selection are established to eliminate handicaps to the effects of the experimental work. They do this, but at the same time they exclude the opportunity to find out whether restitutive efforts can help the development of those children most likely to add to the aggregate of learning failures and behavior problems. Therefore, such experiments with poor children must be considered as only first steps in the prevention of distorted development, steps that may lead further to experiments with children in "hard-core" families—the distrustful, unstable segment of the poor.

The reports of some current experiments presented in this issue of CHILDREN illustrate differences in approach as well as in strengths and limitations.

Francis Palmer's study in Harlem throws light on the relative contributions of formalized procedure and the freedom of adult-child interaction that rewards the child's initiative. The study documents the importance for the very young child of the warm one-to-one relationship with the educating adult.

In the tutoring approach described by Earl Schaefer, the disadvantaged child is introduced to a wealth of materials and activities comparable to that available to a middle-class child. He reports that at 36 months the mean IQ of the children in his experimental group was close to "high average," and the lowest IQ was 89; therefore, we can assume that some IQ's came close to 130 (selected for "adequate home conditions"). The difference of 17 points between the experimental group and the untutored group is almost as great as the difference found in an earlier study between the average IQ of children of unskilled workers and the children of professional and business workers. I commented in 1937 that this difference was comparable to the increase in IQ found in an Iowa study among children whose environment had been improved. This old finding is relevant to Schaefer's results.

If we compare Palmer's and Schaefer's work with that of other recent experimenters, we have to note the influence on the results not only of the enrichment program but also of the tutor's positive relationships with the child and his family. We now need a careful description of what positive relationships involve, and a careful theoretical formulation of the factors, such as motivation, drive, and expectancy, evoked by positive relationships. Far more than strictly cognitive stimulation is included.

Ira Gordon's experiment in teaching indigent mothers how to stimulate their young children is directly concerned with the mother's sense of personal worth and competence.

Halbert Robinson's description of a center which attempts to approximate the richness of family life implies the importance of ongoing varied interactions. This center offers disadvantaged children not only the stimulus of an enriched environment with warm, adult attention, but also pacemaking contacts with children from stimulating homes. As an innovative project, this should result in new hypotheses and insight into the contribution of rich social interaction to cognitive, social, and emotional growth.

The first aim of the project at the Yale Child Study Center, described by Sally Provence, is to help the parents develop their capacity for parenthood so that the development of their children is enhanced. The theory is that, if parents can begin to identify with healthy attitudes and to imitate constructive child-rearing methods, they will develop into better parents and their relationships with their children will contribute to better child development.

We can expect that new knowledge will emerge from each of these experiments in proportion to the investigator's receptiveness to unanticipated data and careful scrutiny of the processes that contribute to expected results.

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CHILDREN UNDER THREE . . . finding ways to stimulate development

II. SOME CURRENT EXPERIMENTS

A THREE-PRONGED PROJECT

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Improving the chances for adequate development of children at risk of impaired development due to a way of life imposed on their parents by poverty, discrimination, and lack of opportunity is one of society's most urgent tasks. Stimulated by this need, the Yale Child Study Center, Yale University School of Medicine, with support from the Children's Bureau, has instituted a research project based on two major assumptions: (1) that services to enhance the child's development should be available to him as early in his life as possible; (2) that services to parents to support their development as adults who can nurture their children are an important aspect of making children's services effective. Lasting benefits to the child are unlikely to occur without parental support.

Following a pilot study to test methods and allow for formation of a smoothly functioning team of research and service workers, selection of subjects for the study proper began in the fall of 1968. It is a longitudinal study that eventually will include three groups of children from low-income families, to be studied from early infancy to 7 years of age: (1) a group living with both of their own parents; (2) a group living in foster families; (3) a group living in a specially devised residence for congregate care.

Each group will consist of about 25 children and will be paralleled by a control group of children in the same type of living arrangement. Most of the children living with their own parents will be selected through the Women's Clinic of the Yale-New Haven Medical Center from families expecting their first child. Those living in foster families will be children who are placed away from home in infancy by the local welfare department in the course of its normal child welfare program. Those living in the residential setting will be children needing care away from home from infancy for whom the welfare department cannot find adoptive or permanent foster families. At this writing (January 1969), the project

has selected only the group of children living with their own parents and is already providing them with the full range of health, educational, and social services that will eventually also be provided to the children in the other experimental groups.

The project's major objectives are:

1. To provide advice, support, and casework treatment to parents and foster parents to help them develop their capacity for parenthood.

2. To design a program of group residential care for infants and children up to 7 years of age geared to the needs of children and to compare the development of the children in the program with children in other institutions. Because of the difficulty of finding a suitable house for this purpose, this phase of the project has been temporarily deferred. The plan, however, is to insure that there is sufficient staff to provide each child with a person with whom he can develop a close relationship. In addition, the environment will include a variety of planned experiences with activities and materials that will support general development and learning.

3. To design a program of educationally oriented day care for the three groups of intensively studied infants and young children that might be used as a model for others. The day-care center now in operation was opened in the fall of 1967 as the setting of the pilot study. Infants are brought to the center for 2 or 3 hours a day—or for full day care if their mothers are working. In the center, most of the interaction with the young infant occurs while his bodily needs are met. Later a balanced program of stimulation and respite from stimulation is provided, determined by the infant's developmental level and his individual temperament. As the children grow older, the center's program will be revised appropriately.

4. To compare the development of the three groups of children from infancy through 7 years of age in various dimensions—areas of functioning, personality development, and behavior—in relation to the three types of environment.

5. To derive from the research findings guidelines for providing effective services to children and families that will be feasible for widespread application.

6. To study in depth individual children in the three types of environment with the view of increasing understanding of the complex interaction between the child's unique endowment, his particular environment, and his particular phase of development.

7. To devise a training program for people who will provide services to children and help to parents in developing their parental capacities—child-care workers in day-care and residential settings and paraprofessional workers to assist parents—and to enrich the professional training of social workers, nurses, and teachers.

The children will be studied in the three types of living situations as well as in the day-care center, in a pediatric clinic, and in individual testing and play sessions. The multidisciplinary research team consists of investigators from the fields of medicine (pediatrics and psychiatry), child development, psychoanalysis, social work, early childhood education, psychology, and nursing. Because the research project is service centered, the investigators include both participant- and nonparticipant-observers.

The participant-observers render services in "family teams" and so have direct contact with the children and their parents. The social worker and the nurse visit the families regularly, providing supportive services to the parents. The pediatrician gives the children medical attention in the clinic and in home visits. The teacher and the child-care worker work with the children in the day-care center, the teacher providing and supervising learning experiences and the child-care worker assisting her in providing these learning experiences and in meeting the children's other needs.

All these family team members while rendering their services also use their special skills as observers to gather data about the child and the family important to the investigation. Nonparticipant-observers of the same professions provide another set of observations which tend to minimize bias or support consensus. Most of the observations of the nonparticipant-observers take place in the center.

The research advantages of a service-centered approach derive chiefly from the fact that when parents receive response to their own and their children's needs (in the form of advice, emotional support, and alleviation of suffering) they tend steadily, if slowly, to develop trust in the members of the research team. This gives the team members access to information about the parents and their children that otherwise would be unobtainable. Another advantage is that the data on the children are collected in set-

tings that are not artificially controlled—their own homes, a day-care center, the pediatric clinic. As time goes on, the various crises that occur in families will also provide important data.

The growth and change in the child and family over a period of 7 years will provide an excellent opportunity for approaching some of the remarkably complex issues in the field of child welfare and, we hope, will yield knowledge that will help to improve the lives of children at risk of impaired development because of adverse conditions in society.

LEARNING AT TWO

FRANCIS H. PALMER

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The City University of New York

That the young child needs stimulation to develop intellectually is unquestionable. However, exposure to complex stimulation may not alone be conducive to optimal intellective performance. Some support for this hypothesis exists in the findings thus far of research being conducted at the Harlem Research Center of The City University of New York as part of a study supported by the National Institute of Child Health and Human Development (HD02253).

The longitudinal study involves 310 Negro males born in Manhattan hospitals between August and December of 1964 and takes into account socioeconomic status, type of training received, and the age when training was begun.

The experimental group includes 120 boys who began training at age 2 and 120 who began at age 3. The 70 boys who serve as controls attend the center for assessment purposes only. All the children will be followed by the research project until they complete the first grade of school.

The 240 children in the experiment attended the center for two 1-hour sessions each week over an 8-month period. In these sessions the children interacted, uninterrupted, with an instructor on a one-to-one basis. Their instructors changed every sixth session, and only rarely did a child have the same instructor more than once during the 8 months. The children were assigned to one of two training groups, concept training or discovery. Children in the concept training group were systematically taught to understand concepts, beginning with such simple ones as top of, open, wet, smooth, and progressing to more complex ones such as far, many, same, different, and so forth. The children in the discovery group were provided with the same play materials and instructors as the children in the concept training group, but the instructors did not at any time label the concepts for the child or initiate a conversation with him. They played with the child, letting the child take the lead in the interaction. A separate study found much more verbalization by concept training instructors than by discovery instructors, thus confirming these differences in method.

So far we can report the following encouraging results regarding the children who began training at the age of 2.

After 8 months of training, both experimental groups performed better than those in the control group on 14 of 16 measures, nine of these differences being statistically significant. The experimental groups were superior on such diverse tasks as the Stanford-Binet Intelligence Test, language comprehension and use, perceptual discrimination, motor behavior, delayed reaction, and persistence at a boring task. More important, children of lower socioeconomic background in the experimental group outperformed the middle-class children in the control group on 14 of the measures, on four of which the differences were statistically significant.

Furthermore, when the children in the experimental groups were retested a year later, they maintained their superiority on all but four of the assessment measures. Thus, not only did the treatment conditions have significant effects on the boys' intellective development at this early age, but the effects were durable for at least 1 year.

However, we were surprised to find that when the two experimental groups were compared, the children exposed to the meticulously developed concept

training curriculum performed significantly better than the children in the discovery group on four measures only: (1) the concept familiarity index, which is highly loaded with items taught in the curriculum; (2) motor performance; (3) ability to follow instructions in sequence; and (4) simple form discrimination. On all other measures, the children in the discovery group did as well or better. Thus it appears that the concept training did not generalize to other dimensions of behavior any more than did the discovery condition.

We interpret these findings as follows: (*a*) The 2-year-old is highly capable of learning a great deal with only 2 hours per week of instruction; but (*b*) what he is taught is not so important as the conditions under which he is taught, specifically the nature of the adult-child relationship.

Among people who choose to work with children, it is rare to find a person who does not develop an affective bond with the child with whom he is working, given the opportunity for uninterrupted interaction. In both the concept training and discovery groups, this condition existed. In the concept training group the child's response to the situation was usually specific to the training materials, and he was guided by the instructor. In the discovery group, the child's response was perhaps less frequently specific to the materials and the requirements of the instructor, but he was rewarded by the instructor's voice, gesture, or physical contact when he initiated a response. Thus, both conditions provided the child with an opportunity to respond and be rewarded in a situation that allowed for a strong affectional bond, and increasingly complex stimuli requiring increasingly complex responses. As the program progressed, most children found it possible to organize the stimulation they received and to respond to the instructor with increasing ease and effectiveness.

Playing with a piece of a Montessori transportation puzzle, this happy youngster at the Harlem Research Center is learning to discriminate forms in a concept training session.

We believe that the superior performance of both experimental groups was the result of one or more of the following elements: (1) the regularity of exposure to a structured learning condition; (2) the affective relationship between instructor and child; (3) the uninterrupted nature of the instructor-child interaction; (4) the increasing realization by the child that he could respond to stimulation and be rewarded for his response.

Exposure to response-facilitating conditions may at this age be the essential ingredient for the child's developing a more sophisticated aspect of information processing than he would under exposure to an ordinary play situation or traditional nursery school activities. The difference is like the difference between reading a detective story for relaxation and reading a textbook for information the reader knows he must organize and be prepared to respond with upon request. One situation is self-satisfying; the reader seeks nothing from the information other than pleasure. In the other situation, the reader must organize the information he gains so that he may do something with it later. This requires a high level of intellective functioning—an ability developed by some people earlier than others and by some to a higher degree than others. While it is not presently fashionable to conceive of intelligence as a unitary factor, this organizing ability surely is important to many aspects of what we call intelligence.

The affective bond between instructor and child may be a motivating force for the child, a force that is most effective in the one-to-one interpersonal relationship and that has ample opportunity to develop in the uninterrupted 45-minute training session. In both kinds of training sessions—concept and discovery—the child had the complete attention of the instructor most of the time, without external distraction. It is doubtful whether many young children, even in the best homes, are provided such an opportunity on a regular and planned basis by their mothers, busy as they are with household chores and other children.

We conclude that the concept curriculum so laboriously developed may be no better than other curricula planned with equal care. A curriculum stressing language and vocabulary development might serve as well. The structure under which the curriculum is offered should, however, create an environment where learning by the child can best occur. In day-care centers and nursery schools, such an environment is less likely to exist than in a one-to-one teaching situation, because of the many distractions that may arise for instructor and child.

We do not know the effects these different types of curricula would achieve were they embedded in traditional day-care or nursery school programs. Clearly such programs provide an opportunity for more comprehensive attention to the child's intellective needs and should be systematically evaluated under controlled conditions.

STIMULATION VIA PARENT EDUCATION

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For the past 2½ years, the University of Florida has been experimenting with the use of women from disadvantaged neighborhoods to teach indigent mothers of infants and young children how to stimulate their children's development. The project, which receives support from the Children's Bureau and the National Institute of Mental Health, has two related objectives: To find out whether the use of such parent educators (1) enhances the development of the children and (2) increases the mother's competence and sense of personal worth. A third objective is to find out more about the home life of children in the indigent population in the area.

The program consists of providing instruction to the mother by the parent educator in a sequence of stimulation exercises. The stimulation procedure involves a systematic series of sensory-motor, tactile, and verbal experiences developed after a review of research theory and findings on cognitive and affective development in the earliest years.[1] Instruction is given about once a week in the home. The mother is instructed not only in the mechanics of the exercises, but also in developing an attitude toward them as play to be enjoyed by both herself and her child. The parent educator presents the toys and play materials to the child in a way to help the mother learn by imitation, involving the mother in each task with the child.

The parent educators will continue to work with individual children and their mothers in their homes until the children are 2 years old. At that age, the children will be taken by their mothers twice a week to "backyard centers," set up in the homes of selected participating families, for special instruction and activities. The parent educators will serve as center directors, and the mothers who supply the space for backyard centers will serve as their assistants.

The first phase of the study began in the summer of 1966 by selecting participants from mothers and their newborn infants in the J. Hillis Miller Health Center Training Hospital, University of Florida. Criteria for selection, in addition to the economic code of "indigent" on the hospital admission form, were: single birth; no breech or Caesarean delivery; no birth complications involving either mother or infant; no evidence of mental retardation in the child; and no evidence of mental illness on the part of the mother. On selection, the mothers and their infants were assigned to either the experimental or control group at random. As of February 1968, this first phase included 95 mothers and infants in the experimental group and 80 in the control group.

Fifteen parent educators—12 Negro women and three white women, roughly approximating the proportion of Negro and white deliveries at the health center—were selected in August 1966. The original criteria for selection were high school graduation; unemployed or low-level employment; and some experience with infants. Eleven of the original group remain in the project as of November 1968.

A second phase of the project was begun in July

1967 with the addition of two new experimental groups and one control group, involving a total of 120 new families—80 in the experimental group and 40 in the control group. This phase was designed to test whether the particular series of activities or another pattern with greater emphasis on locomotor development and with equal amount of time spent in the home instructing the mother might contribute more to child development. Six new half-time parent educators were added at that time.

The parent educators' training has taken place in two phases: (1) an intensive 5-week course given before the parent educators began home visits; and (2) a continuing inservice program once a week. The intensive course dealt with the stimulation tasks to be taught the children, interview techniques learned through role playing, observation procedures, and recordkeeping, as well as general information about child development. The inservice program continues this type of training, but also provides the parent educators with opportunities to discuss problems, learn about community services, and plan new learning tasks. During their training, the parent educators have helped develop the testing instruments and have supplied ideas about future directions for the program.

The program has not been in progress long enough to test how lasting its effects will be. But the data on 146 children in the first group still with the project at one year of age indicate that the program enhances the development of children in their first year. The children were tested on the Griffiths Mental Development Scale as close to their first birthday as possible. The scores of 85 children in the experimental group were compared with those of 61 children in the control group. The Griffiths Mental Development Scale yields not only a general intelligence quotient (IQ) but also subquotients in the areas of hearing and speech, eye and hand coordination, personal-social relationships, performance (in handling objects), and locomotor development. The results of the tests showed significant differences in favor of the experimental children in regard to general IQ and hearing and speech, eye and hand coordination, and personal-social relationships. Most of these differences seemed to be due to gains made by girls in the experimental group.[2]

The two groups of children were also tested for their performance of the tasks in the project's series. Our notion was that their experiences during the first year should result in a higher percentage of experimentals than controls passing not only the tasks they had been taught but also tasks they had not yet been taught; that is, that the learning of taught tasks should have enhanced the children's ability to figure things out for themselves. Each child was tested on a mixture of taught and untaught tasks. The experimental children succeeded more frequently than the controls not only on the great majority of the tasks taught, but also on more of the untaught tasks.[3]

The second objective of the project—to increase the mother's sense of confidence and personal worth—is still being tested.

Two scales for doing this were developed during the first year. The How I See Myself (HISM) modifies one created for elementary and high school students;[4] the Social Reaction Inventory (SRI) modifies the Rotter I–E Scale,[5] which measures a person's sense of being or not being in control of his own life. The mothers in the second group were tested on these scales when they entered the project. The results of their HISM tests, when compared with the scores of lower class, high school girls, showed that the mothers were lower in self-esteem, sense of interpersonal adequacy, regard for their own physical appearance, and sense of autonomy, and were more negative in their attitudes toward teachers and school. Preliminary data from HISM tests taken 9 months later indicate that the mothers have improved in all these areas except autonomy. The SRI test results indicate that the mothers more than any of the groups that have been measured by Rotter, tend to feel that their lives are externally controlled.

In regard to the project's third objective—to increase our knowledge of the home life of the infants in this population—a great deal of information has been obtained from the weekly observations made by the parent educators. However, this has not as yet been analyzed in detail.

One member of the research team studied 20 families in the control group for patterns of maternal verbalization, reward, and punishment,[6] visiting them once a month for a year. She found a steady increase in the frequency of punishment of the children between the ages of 3 and 12 months. However, she saw little physical punishment of the children. The major punishment techniques were removal from the situation and threats. The mothers' major rewarding behavior was smiling. There were very few verbal rewards. When such data are analyzed for the total population of the study, such trends and many others will be related to child performance.

We feel that thus far the experience of this project indicates that (1) a parent education program using

nonprofessionals and serving mothers living in difficult urban and rural conditions can be maintained and that (2) this type of program does seem to enhance the development of infants whose mothers are reached in their homes. As the program continues, we will learn better what effects such a program has on the mothers and whether the effects on the infants are cumulative or lost over time.

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A HOME TUTORING PROGRAM

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A program of home tutoring was begun in September 1965 in Washington, D.C., by the National Institute of Mental Health to stimulate the intellectual development of very young children of lower socioeconomic status. Information on family environment and maternal behavior was also collected through interviews and from observations during tutoring sessions.

An experimental group of 31 children under 2 years of age and a control group of 33 children of the same age were selected from door-to-door surveys of two lower socioeconomic neighborhoods. All the children were Negro males. Although children for the experimental and control groups were chosen from different neighborhoods, children from the two neighborhoods have comparable readiness scores at school entrance. Children were included in the experimental or control group only if their families agreed to participate in the study and met two of three criteria—family income under $5,000, mother's education under 12 years of schooling, and mother's occupation, if any, either unskilled or semiskilled—and if their homes were not judged unsuitable for a tutoring situation. Comparisons between the groups revealed only small differences, many of which favored the control group, on family variables that might be expected to influence the child's intellectual development.

College graduates who had some experience with young children and some knowledge of the inner city were recruited as tutors. They received a brief period of training through lectures, observations of children in their homes and in child-care institutions, and a pilot, supervised tutoring experience. Throughout the project, there was continued supervision of tutoring, informal communication among staff members, and staff conferences on child care and educational methods. Two tutors alternated weekly in visiting each child in the experiment for an hour a day, 5 days a week, beginning when the child reached 15 months of age and continuing through 36 months of age.

The educational program was designed to develop positive relationships with the child and his family, and to provide verbal stimulation and varied and increasingly complex experiences. Some of the activities and materials included were walks and trips to the grocery store, drug store, fire station, zoo, library, and museum; holiday and birthday parties; picture books, storybooks, and scrapbooks; songs, nursery rhymes, and records; physical activities and games; puzzles, blocks, and various kinds of toys; and finger painting, drawing, and crafts. The educational program was developed from the experiences of the tutors and from reading, informal communication, and staff conferences. Participation of the mother and other family members in the activities was encour-

A tutor from the National Institute of Mental Health encourages her young pupil's interest in picture books.

aged but not required. In about one third of the families, the mothers or other family members showed a great deal of interest in participating in the activities; in about a third, they showed moderate interest; and in a third, little interest.

Psychologists administered intelligence tests to the children in both experimental and control groups at ages 14, 21, 27, and 36 months and also rated the children's test behavior. Tutors provided information on the home environment and experiences, the social and emotional behavior, and language development of the children in the experimental group and on their mothers' behavior toward them. The two tutors who visited a child on alternate weeks reported on him independently.

Mean IQ scores were computed from the Bayley Infant Mental Test and the Stanford-Binet Intelligence Test for the 28 experimental and 30 control children who stayed with the project to completion. The interpretation of the mean IQ scores must be guided by the facts that infant mental tests measure different functions at different ages and that early mental test scores have low correlations with mental test scores at later ages. Several studies have found that low socioeconomic groups do not show low mental test scores prior to 18 months of age.

Mean IQ scores of both groups in this study were above the norms at the 14-month test (experimental mean IQ—105, control—108), which includes many sensory-motor items. On the 21-month test, which includes more verbal and cognitive items, both groups were below norms (experimental mean—97, control—90), but the experimental group mean IQ increased at 27 months (experimental mean—101, control—90) and again at 36 months (experimental mean—106, control—89) while the control group mean IQ remained low. These test results suggest that the children's experience in their first 15 months might have adversely influenced their early mental development, but that the home tutoring programs stimulated a more rapid rate of mental development later.

However, a year after the intensive home tutoring was terminated the intelligence scores of the children had dropped significantly, indicating that young children need not only early but also *continuing* stimulation for optimal intellectual growth.

The distribution of IQ scores for the experimental and control groups differed greatly, the lowest IQ of an experimental infant at 36 months—89—being equal to the mean IQ for the control group. Highly significant differences between groups were also found at 36 months on the Johns Hopkins Perceptual Test, the Peabody Picture Vocabulary Test, and on ratings of task-oriented behavior. The hypothesis that additional intellectual stimulation would produce higher intelligence test scores was confirmed by these results. In addition, informal observations of changes in both the child's and the mother's behavior and interests suggested that the home tutoring had many other effects that are less easily measured.

Analyses of the extensive data collected on the experimental groups at 36 months revealed significant correlations between methods of child care and the child's behavior and mental test scores. Three clusters of interrelated variables were isolated from the tutors' observations and labeled "child neglect," "maternal hostile uninvolvement," and "child hostile maladjustment." In addition, clusters of child task-oriented behavior and mental test scores were isolated from the testing materials.

Child neglect correlated highly with maternal hostile uninvolvement. Both child neglect and maternal hostile uninvolvement correlated significantly with hostile maladjustment of the child. The tutors' observations of child neglect, of maternal hostile un-

involvement, and of child hostile maladjustment correlated significantly with the mental testers' independent blind ratings of low task-oriented behavior and low mental test scores on the part of the child, and these clusters also correlated highly with one another.

These data suggest that the quality of early maternal care has significant effect upon a child's adjustment, task-oriented behavior, and mental test scores at 36 months. If these findings can be replicated, they have major significance for future programs of prevention of social, emotional, and cognitive deficits in children. Their credibility is increased by related findings that supplementary tutoring and the adequacy of maternal care bear similar relationships to the child's adjustment and mental test scores at 36 months.

Although the subjects of this study were inner-city Negro children of low socioeconomic background, similar results would probably be found among children in other low socioeconomic groups. In fact, variations in maternal care that are related to variations in the child's social, emotional, and intellectual development might be found in all social groups.

A big boy and a little boy find each other mutually interesting at the Frank Porter Graham Child Development Center where children of different ages have a chance to play together as they usually do in normal families.

FROM INFANCY THROUGH SCHOOL

HALBERT B. ROBINSON

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The Frank Porter Graham Child Development Center of the University of North Carolina at Chapel Hill functions as a complex, long-range research project with support from a number of sources, including the Children's Bureau. It seeks (1) to discover a recipe for an optimum environment for a group of infants and children who vary in socioeconomic status, race, and sex; (2) to learn how to support parents' efforts by developing a comprehensive and easily available package of services for children, including full day care, complete health care, and education; (3) to discover what difference such a program will make in the long-range functioning and stability of the families and the development of children. The center provides a laboratory for professional persons from the many disciplines concerned with the family, with child development, and with the training of students who will work with families and children.

The present center, which began pilot operations in the fall of 1966, is the precursor of a much larger enterprise that will encompass both a day-care facility for more than 200 infants and young children and an elementary school for these children as they grow older and others who are being followed in the community. Children are usually admitted to the center as infants, some under 1 month of age, although the initial groups have included some 2-year-olds.

The general day care of all 31 children is at present centered in two cottage units, each of which has 15 or 16 children, mixed in age, and four child-care workers. In mid-January 1967, the oldest child was

332-481—69——3

4½ years and the youngest, 6 months. The children come from families representing the spread of socioeconomic background from upper middle class to disadvantaged. Half are boys; half, girls. Half are Negro; half, white.

The cottages are specially designed units in which the children eat, nap, play, and engage in individual and group activities, both planned and free. The equipment includes the items needed for basic care and in addition the toys, books, play equipment, musical instruments, and art supplies that characterize a good nursery school. The staff ensures that all children receive abundant attention and stimulation, are encouraged in independent and achievement-oriented behavior, and find warmth and support.

Infants and toddlers receive their educational training in the cottage units while the older children attend a preschool education facility for part of the day. The educational program encompasses language development, computational skills, perceptual and motor skills, art, music, reading, science, and a second language (French). The aim of this aspect of the project is to work toward the establishment of a sensible, coordinated, carefully evaluated curriculum that will eventually span the entire period from shortly after birth through elementary school. The preschool program has thus far received primary attention, but eventually it will be integrated with the elementary school through a continuous curriculum.

A unique feature of the center is its acceptance of children even when they are ill. Staff pediatricians, dentists, and nurses provide regular health surveillance and special care in case of illness. The full range of preventive health services and emergency care has been carried into the homes.

The rationale of the project encompasses several ideas to be tested: (1) That the best time to intervene into the cycle of deprivation and inadequacy is the period of infancy and very early childhood; (2) that if early experiences are continuous with later ones through the school's encouragement of the same skills and abilities cultivated earlier, the gains made through the preschool program will not be lost; (3) that only by a full-scale and energetic program can the potential effects on children of favorable early experiences be assessed, whether children of the poor or of the middle class.

A longitudinal study of the children admitted to the center and of their families is underway. Many aspects of the children's development are measured: intellectual skills; language development; physical growth, health, and disease patterns; social behavior; personality traits. Detailed information about their homes and families is also being obtained. A similar matched control group of 31 children who receive health care at the center, but are not included in the day-care or educational program, is also being carefully followed.

The center provides a unique setting for a broad range of additional short-term studies. A few examples of these are an investigation of the comparative role of visual and auditory stimuli in the imitation of sounds by young infants; investigation of the relationship of the genetic similarity in siblings to the similarity of their developmental progress and personality traits; development and evaluation of educational curricula; investigation of the effects of various television programs on the aggressive and friendly behavior of children.

Thus far, there is reason to be pleased with the progress of the children. As a group they are bright, alert, fond of each other and of the staff. They display a minimum of aggression and a maximum of "joi de vivre." They are verbally adept, confident, and emotionally stable. Although as yet there are too few children involved and the program has been in operation too short a time to bank confidently on the results of formal testing, the findings thus far have been encouraging. The children from disadvantaged homes, in particular, have progressed at a very satisfactory rate, far exceeding the developmental norms for this group.

The affections come to school with the intellect.
John Milton Gregory, in "The Seven Laws of Teaching," *Pilgrim Press, Boston, 1917.*

PARENT and CHILD CENTERS

WHAT THEY ARE ⋮ WHERE THEY ARE GOING

ALICE V. KELIHER

The motivation for establishing the federally aided program of Parent and Child Centers (PCC's) a little over a year ago came from the realization that many children of poverty, when they entered Head Start centers, had deficits in health, physical development, mental acuity, and language usage dating back to infancy and very early childhood. Nearly half of the first million children registered with Head Start had not seen a dentist; most of them had had no consistent medical care; many had nutritional deficiencies.[1] Few of the children showed evidence of having been stimulated intellectually by being talked to or played with by the members of their families.

When these deplorable facts were reported to President Johnson early in 1966, he immediately set up a Task Force on Early Childhood Education. This group proposed that pilot Parent and Child Centers be established in various parts of the country to demonstrate what could be done to prevent developmental deficits by helping parents both before and after their babies are born and by providing comprehensive health, educational, and social services for infants and toddlers. The President announced the pilot program in his Health Message to Congress in February 1967. A unit of Project Head Start, the program is administered by the Office of Economic Opportunity with the cooperation of an interdepartmental steering committee representing OEO, the Bureau of the Budget, and the Departments of Labor, Housing and Urban Development, and Health, Education, and Welfare.

The whole PCC program involves only 36 communities and seven of these have not yet reached the operational stage. Therefore, critics are inclined to say that the program represents "just a drop in the bucket." Possibly so. But it may eventually have a widespread effect, for it is an effort to create some new designs to reach and serve children early in their lives, and to involve and train adults in the essentials for child development who have been unaware of the needs and potentialities of infants and very young children. With the Federal contribution to each center limited to the sum of $185,000 for planning and the first year of operation, a further goal is to set up a manageable but effective program that can be duplicated throughout the country without the expenditure of astronomical sums of money.

The 36 communities selected for participation, with the view of achieving geographic, urban, rural, and ethnic representation, each received $10,000 for a 6-month planning period before being granted any operational funds. In most instances, the planning money was granted to a local community action committee. In most communities, much of the planning period was consumed in seeking persons to serve on PCC planning committees, which were required not only to include representatives from the various local health and social agencies, but also to be composed, by at least one third, of persons who were liv-

ing in the neighborhoods that were to be served.

Once a local PCC planning committee was formed, it had to establish relationships with community action leaders and Head Start personnel, find office and operating space, and learn what the needs of the people in the neighborhood were, what agencies already existed to serve them, and what special services a Parent and Child Center could most appropriately render. Then the committee had to find a PCC director acceptable both to itself, the community action committee, and the people in the neighborhood—a task made especially difficult by the shortage of people who are qualified by training and experience to work with children and who could comfortably and effectively work in a disadvantaged neighborhood. It also had to get the machinery going for a changeover from a planning committee to a policy advisory committee in which half of the members must be PCC parents or neighborhood residents. The other half are usually representatives of other agencies that serve the community, including both lay and professional persons.

Program design

Thus, building adult and agency relationships necessarily took precedence over designing the programs for infants and toddlers not only during the 6-month planning period, but also in some instances several months afterward. Now, however, the PCC committees are turning from an almost exclusive concern with adult relationships of all kinds to a concentration on the design of the programs for infants and toddlers. In this they will be helped by an OEO-sponsored seminar for PCC project advisors to be held this spring and to be focused on current research and demonstration designs for working with infants and young children that have implications for PCC's.

Though varying in their structures, many PCC's now in operation follow the approach developed at the University of Florida in the research project described in this issue by Ira Gordon. [See page 53.] In these centers, neighborhood residents are trained to become infant educators who go into homes, work and play with the babies and toddlers, and teach mothers to do the same. These family aides help the parents secure stimulating toys and materials for the children. They teach the parents the value of talking with the infant as well as the toddler, and help them get library cards to secure story and picture books to share with their children.

The popularity of this home-based approach may be traced to two origins. For poverty-stricken parents, especially those in rural areas, travel to group meetings is often almost prohibitive, and so the program is taken to them. Secondly, many of the PCC's have experienced delays and difficulty in securing a physical setting for their operations, and therefore, in order to get going, they carry their work into the homes.

Some PCC's combine two approaches: (1) going into the home and (2) providing a center to which the parents bring their children for group activities or care. However, there is not as much group day care in the PCC's as might be expected. A few PCC's do have day-care centers for infants. One plans to use neighborhood homes for family day care. Another is developing cooperative day-care services with parents as child-care workers both in family homes and in groups at the center.

The emphases in the centers differ. For example, one center is focused almost exclusively on serving teenage unmarried mothers and their children as well as other members in the children's families. Another, focused on teenage parents in a crowded inner-city area, plans to establish a neighborhood house to provide opportunities for rest, recreation, and learning, managed by the young parents themselves.

Some PCC's are trying out various ways of grouping children in child-care programs. One places infants under 1 year of age in four different age groups. Another, concerned that older siblings may feel left out, has arranged for them to spend time each week in "alternate homes" programmed for happy experiences. Still another, in a Mexican-American neighborhood where the children have the problem of learning two languages, has divided the 3- to 18-month-old children into three groups, trying different approaches to cognitive development in two of them and maintaining the third as a control group. Another PCC is trying to devise new and better techniques of parent education.

Only a few centers have gone into any kind of "rigid research." The PCC's were advised against

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setting up much detailed research in the first year of operation on the grounds that they needed time to find their way to appropriate services without being restricted by tight research lines. All the PCC's, however, are recording general information on the families being served, program details, and data on aspects of child development.

Parent participation

PCC's are practically unanimous in reporting a high degree of parent participation in planning and operating their programs. In some cases the entire program of activities is organized by the parents of the children served by the center. In these centers PCC staff members consider themselves resources for the parents, to be called on for advice when the parents want it. In other centers the planning is done by the policy advisory committee; and in still others, the staff does more of the planning, usually in response to needs expressed by the parents.

The centers provide the parents with a range of opportunities and services. Among them are—

- General education classes at convenient hours.
- Workshops in nutrition, cooking, sewing, and carpentry.
- Classes in health, safety, and first aid.
- Instruction in the homes or in the center, or both, on ways of stimulating development in infants and very young children. The emphasis is on sensory stimulation and language development. In one center video tapes are made of parents working with their children. When he replayed the tape, one father discovered he was echoing his child's baby talk.
- A "crisis fund" that can be drawn on in extreme emergencies.
- Demonstrations of home improvements and effective care of a house through a "model home."
- A workshop where the men in the family can produce salable arts and crafts traditional in their ethnic group.
- Assistance to fathers' efforts to cultivate crops to augment family food supplies.
- Bathing and laundry facilities in the center for families whose homes have no running hot water.
- Assistance with personal and everyday problems, sometimes through professional social workers but more often through neighborhood residents chosen for their ability to get along with people and to learn how to make referrals to health, welfare, and other services available in the community.

The foregoing are examples of the many kinds of activities and services for parents in the PCC program. Of course, parents are of necessity intimately involved in the health programs and in the work with the children.

Most of the PCC's are striving for the participation in their programs of fathers, grandfathers, and teenage boys. Nearly all centers have neighborhood men on their policy advisory committees. Some centers have also succeeded in placing men on their staffs—as PCC director, teachers, social workers, family aides, custodians, or in other capacities. Some centers are making special efforts to recruit grandfathers and teenage boys from the neighborhood being served to work as aides in the center, either on a paid or volunteer basis.

Fathers in PCC families are encouraged to improve their occupational status by seeking better jobs, more training, and continued education. One center has already succeeded in helping six fathers move ahead.

Men and boys, especially fathers and brothers of the children being served, are also encouraged to participate in the workshops for making toys and equipment for the center and the families' homes, as are the children's mothers.

A few centers also provide social activities for the men. Indeed some leaders insist that the men need stag gatherings to escape the dominance of their women. In some of these meetings coffee gives way to beer or "better."

One goal of this emphasis on male participation is to provide a male image for the children. Another is to help the men develop a sense of pride in their role as the man in the family and strengthen their leadership as the family head. Another is to help fathers realize that they can enjoy their children and find pleasure in playing with them and in sharing in their upbringing.

Health and medical care

A vital commitment of the PCC program is to secure comprehensive medical care not only for the child but also for his whole family. While some centers—especially those in sparsely settled rural areas—

are still struggling to meet this obligation, others have made dramatic moves. For example:

• One PCC provides the funds for all children under 18 years of age in PCC families to be served by the local children's hospital and all members of the family over 18 to be covered by a voluntary group health association plan.

• Another PCC has arranged for comprehensive health care to be provided by an OEO Neighborhood Health Center sponsored and serviced by a local hospital.

• In another area the PCC has arranged a liaison with a local university medical school that will enable psychiatrists in training to serve members of PCC families where needed.

• A few other PCC's also have psychiatric counseling available. In some there is group therapy. One center is experimenting with "play therapy" for 2-year-olds.

• In one of the Nation's worst "burned out" ghettos, where there are large numbers of Puerto Ricans in the population, the PCC plans to join a group of socially-minded physicians at the city children's hospital in efforts to improve the availability and quality of health services to the poor. In this PCC a group of mothers on the planning committee has conducted a health survey, printed in English and Spanish, to ascertain the community's most urgent health needs.

• Other PCC's are also surveying existing health services, their adequacy, and their style of dealing with poor families. Neighborhood aides on the PCC staff are encouraging families to use existing health agencies. These PCC's are trying to get the agencies to protect the dignity of the families in rendering their services.

• Several PCC's are making special efforts to learn about the nutritional and medical needs of adolescent mothers and their infants. They plan to emphasize health and nutrition counseling.

• PCC's that have been able to arrange for comprehensive health care are also seeing that family planning services are available to those mothers who want them. Or they refer mothers who request such services to existing planned parenthood agencies.

A still unsolved problem is what to do about health care for PCC families in geographic areas where adequate medical services do not exist. Perhaps what is learned from a survey of PCC experience can be used to guide State and Federal agencies in creating further services to meet urgent needs.

Training

Everyone in the program, from aide to professional project advisor, seems to realize the need to know more about children, how they grow, what their overall needs are, what to expect in normal behavior. As a result, all of the centers are involved in plans for training programs—for staff, for members of advisory groups, and, of course, for the adults in the families of the children in the program. There is need for good source materials to assist with and vivify this strategic part of the program. Readable books, pamphlets, cartoon strips, TV tapes, movies, live TV programs, photographs, first-hand observations of children, all have a place in such training. The problem is to make them available and readily usable.

Such training needs will continue. Many issues and areas of concern do not become evident until staff members and parents try to carry out some of their ideas. At such a time, they are likely to be highly motivated for continuing study. Many PCC directors have indicated that they would like help in planning and conducting the kind of staff meetings in which all levels of personnel will participate as well as in arranging sessions that will appeal to the parents.

Most centers are beginning to plan for career development for their staff members. In some cases, where feasible, they are tying in with programs in their areas sponsored by the Educational Projects, Inc., an organization for career development in Head Start.

Most of the PCC's have a long way to go to achieve comprehensiveness in the educational, health, and social services they offer disadvantaged families and children. But they are busy breaking down the barriers to comprehensiveness and showing ways of getting at the child and his family in the period of the child's life most crucial for his development.

As one director described the efforts: "Hardest to put into words, and the most unique feature of our program, is its *spirit*, which has to be experienced rather than talked about."

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[1] Office of Economic Opportunity, Project Head Start: The Project Head Start, 1965–67: a descriptive report of programs and participants. Unpublished material compiled by the Bureau of the Census.

COMBATING MALNUTRITION THROUGH MATERNAL and CHILD HEALTH PROGRAMS

MARY C. EGAN

In recent months, increased attention has been focused on the problems of hunger and malnutrition in our Nation as a result of citizens' inquiries and studies, congressional hearings, legislative action, and the "stepped-up" activities of many Federal agencies. It seems timely, in view of this heightened public concern, to review some of the efforts to reach mothers and children with nutrition services.

An emphasis on nutrition education for mothers and children may be the key to the health and well-being of present as well as future generations. In fact, the quality of "nutritional imprint" on today's children may determine the nutritional health of the mothers and children of tomorrow.

There are many causes of malnutrition among children, all of them familiar to persons who work in the public health or welfare field. Some families just do not have enough money in their pocketbooks to buy adequate food. Some simply do not understand that the food they select can make a difference in family health and productivity. Some are still struggling to feed themselves properly with no refrigerator, few cupboards, and only a two-burner gas plate. Some parents completely reject one or more of their children, leaving them devoid of love, food, and other basic essentials for healthy survival. And some children are suffering from a chronic illness that affects nutritional requirements and the body's utilization of food. Frequently, a combination of these forces is at work, and the complexity of the matter adds to the difficulty of effecting solutions.

In attacking any problem, it is important to define its nature and extent and to start with some baseline data. Therefore, the first question in dealing with the problem of malnutrition must be, "What is actually known about the nutrition problems of mothers and children?"

Many gaps remain in the information about the nutritional status of the U.S. population, although efforts have been made over the years to diagnose and evaluate nutrition problems in various parts of this country. Most of the studies that have been carried out have been restricted by limitations on resources for doing the job.

Some recent findings

Recently, however, efforts to delineate the nature and extent of nutritional poverty have been stepped up and new data secured. For example—

• A study of the nutritional status of about 500 children between 1 and 6 years of age selected at random from a 17-county area in Mississippi between November 1967 and March 1968 found that nearly 40 percent, or 200, of them were from families with a reported per capita income of less than $500 yearly. Comparisons between these 200 children and the 300 children whose families had yearly per capita incomes exceeding $500 showed that a higher percentage of children among the low-income group had "low" dietary intakes of calories, protein, calcium, vitamin C, and vitamin A and "low" laboratory values for hemoglobin, and serum iron, albumin, vitamin A, and vitamin C. For example, 24 percent of the children in the low-income group had low hemoglobins—that is, less than 10 grams of hemoglobin in 100 milliliters of blood (10 gm./100 ml.) as com-

Based on a paper presented at the annual meeting of the American Public Health Association, Detroit, Mich., November 1968.

pared with 12 percent in the higher income group.[1] This study was part of the pilot phase of a nationwide study of preschool children.

• In March–April 1968 the Children's Bureau carried out a study [2] to test the feasibility of collecting data on the nutritional status of children through the comprehensive health services projects for children and youth supported by the Children's Bureau in many low-income areas. Information on height and weight was obtained on approximately 17,000 children from birth to 13 years of age. On the basis of comparisons with the Harvard Growth Data,[3] approximately 7 percent of the 2- to 6-year-old children were classified as severely stunted in height or weight. Information on the concentration of hemoglobin in the blood, obtained on 13,000 of the children, showed that 28 percent of those who were between 12 and 24 months of age had hemoglobin concentrations of less than 10 gm./100 ml.

• Preliminary data from the Public Health Service national nutrition survey initiated in low-income areas in Texas, Louisiana, New York, and Kentucky indicate an alarming prevalence of those characteristics that are associated with undernourished groups, according to testimony given by Arnold E. Schaefer before the Senate Select Committee on Nutrition and Related Human Needs on January 22, 1969. For example, among findings reported was an "unacceptable range" of hemoglobin levels in one-third of the children under 6 years of age, evidence of vitamin D deficiency in about 3.7 percent of the children under 6 years, and retarded bone growth in 3.5 percent of the 120 children whose wrist bone X-rays had been analyzed.

A thoughtful and apparently satisfied boy finishes his lunch. Good nutrition education is focused on helping mothers serve children foods that will foster the kind of eating habits that contribute to growth and development.

• On January 10, 1969, the then Secretary of Health, Education, and Welfare, Wilbur J. Cohen, in a statement before the same Senate committee, noted that "public assistance programs serve only about 40 percent of the poor. Further, some States provide in actual assistance payments less than 50 percent of what the State itself considers a necessary standard." He also pointed out that only 45 percent of the families receiving aid to families with dependent children (AFDC) receive food stamps or donated foods from the U.S. Department of Agriculture. In 1967 of the families on the AFDC rolls, 15 percent lived in areas without food stamps or the donated food program.

• Recently, State and local health agencies were queried by the Children's Bureau about their views on the need for additional food among infants, children, and expectant and lactating mothers. A large majority of the replies from these agencies expressed the opinion that such a need does in fact exist among many of the individuals and families they serve. The health agencies indicated a willingness to do all they can to help alleviate the situation.

• A nationwide study of child abuse carried out by investigators from Brandeis University in 1967 [4] demonstrated that, among 5,938 children reported as abused that year, 238 (or 3.9 percent) were suffering from malnutrition.[5] Their malnourished condition was judged to be the outcome of relationship and personality problems in their families rather than a result of the families' inability to procure sufficient food. In all of the cases, irrespective of socioeconomic status, the child's state of malnutrition was judged to involve elements of intention on the part of the child's caretaker.

• In 1968, nutritionists working with mothers and children in maternal and child health programs were

asked to provide some information about current practices regarding the addition of solid foods to infant diets. Particularly striking in their replies was the frequency of such comments as, "By one year of age, the majority of children are on table foods. Large amounts of breads and cereals, fats, and concentrated sweets (jelly, sugar, and soft drinks) as compared to meats, fruits, and vegetables are being consumed by 1-year-old as well as 2-year-old children." Many young children apparently are eating large quantities of foods that provide few of the essential nutrients other than calories. Such practices may be related to the increasing prevalence of obesity and dental caries in children.

Diversity in attack

The diversity of causes of malnutrition in children obviously calls for a variety of approaches in attacking the problem. One of these involves the complex problem of income maintenance and its implications for economic and social policy. Food costs money, and money for food runs out when the family income is too small to provide for the basic essentials of living—shelter, clothing, utilities, as well as food. But equally important is an understanding of nutritional requirements and how to meet them; and this involves nutrition education, a major aspect of the maternal and child health programs supported by Federal, State, and local governments.

Since experimentation is being encouraged, many different educational methods are being tried in these programs today, those that seem effective being retained and others discarded. Among the promising approaches are the following:

1. ***Providing intensive dietary counseling in normal and therapeutic nutrition.*** In the 53 maternity and infant care projects and 58 comprehensive health care projects for children and youth being supported by the Children's Bureau in low-income areas, there is a higher concentration of nutritionists and dietitians than is usually found in generalized public health programs. For example, these projects have over 300 positions budgeted for nutritionists, as compared with about 500 such positions budgeted for all of the official State and local public health agencies throughout the Nation.

These comprehensive health and medical care projects afford excellent opportunities to reach mothers and children in low-income families with nutrition education, for they offer nutrition services as an integral part of health services. Participating in an interdisciplinary core team, nutritionists work closely with physicians, nurses, social workers, physical and occupational therapists, specialists in speech and hearing, and other specialists. They evaluate the patients' dietary intake and food practices, give individual food and nutrition guidance adapted to each family's level of education, cultural background, and economic level so that the family can carry out their instructions.

These health projects emphasize both the preventive and treatment aspects of nutritional care. For example, in the maternity and infant care project in Minneapolis, Minn., in addition to providing special nutritional counseling to expectant mothers at risk of complications of pregnancy, the nutritionist helps mothers with weight control programs after the birth of their babies. Such service given during the period between pregnancies may help prevent the stress and danger of being overweight or underweight during future pregnancies. Since the patients in both the maternity and infant care and children and youth projects are followed over a long period of time, the nutritionists usually have opportunity to reinforce their teaching and evaluate the patients' nutritional progress.

In working with mothers and children enrolled in the projects, nutritionists along with nurses and practitioners of other disciplines have been experimenting with various educational media and techniques. For example, the Omaha, Nebr., maternity and infant care project is conducting research on the development of programed instruction in prenatal education. In this project, educational television programs on various aspects of maternal and child health, including nutrition, are shown twice weekly in the prenatal clinics. Patients seen on the remaining clinic days are used as controls in evaluating the effectiveness of this method of teaching.

2. ***Focusing attention on the improvement of parents' competence*** by increasing their understanding of the

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relationship of nutrition to child growth and developing their skills in child care. Maternal and child health departments—through their regular programs and the special maternity and infant care and children and youth projects and also through programs sponsored by other agencies, such as the preschool program of Project Head Start and its pilot program of Parent and Child Centers for children under 3 and their parents[6]—are attempting to develop and reinforce the kind of parenthood that will help prevent deficits in the health and intellectual, social, and emotional development of the child.

In such programs, nutritionists teach parents directly or indirectly through other staff members not only how to buy, prepare, and serve food that will meet nutritional needs but also to understand the significance of appropriate feeding in establishing sound parent-child and family relationships. In addition, auxiliary workers and volunteers who have received some training from nutritionists and who are usually from the same low-income neighborhoods served by the programs work under supervision with individual parents and young people in their homes and in the clinics. According to several of the projects—for example the projects in Cleveland, Ohio, and Raleigh, N.C.—many of these workers have exhibited a great deal of skill in communicating with mothers and other persons in the families being served and often are more effective than the professional staff members in motivating them to achieve a desirable change in food habits.

Various members of the professional multidisciplinary health team also contribute to nutrition education. For example, in a children and youth project in Philadelphia, Pa., two groups of about 15 parents each meet weekly with different team members for 2-hour sessions of open-end discussions. In these groups, where parents are encouraged to talk about food customs, practices, and attitudes and are helped to understand the need for change, many techniques to help their children achieve better nutrition have been developed by the parents themselves.

3. ***Focusing attention on problems of home management and family economics.*** Such problems often block a family's ability to follow through on any kind of recommendations for health measures, including nutrition. In many of the comprehensive health and medical care projects for mothers and children and also in clinical programs for mentally retarded children, home economists and supervised homemakers are bringing their skill and knowledge in home management and family economics to bear directly on many of the difficult problems faced by low-income families. In some of the comprehensive health care projects—for example, the maternity and infant care project in Goldsboro, N.C.—the home economists work with small groups of mothers in the waiting room of the clinic, using all "teachable moments" to illustrate something as simple as how to read the label on cans of baby food or how to make a basic baking mix from donated foods distributed by the U.S. Department of Agriculture.

The home economists also make home visits to patients referred by other members of the health team. For example, a home economist in the maternity and infant care project in Portland, Oreg., recently reported that she had made 22 home visits during 1 month to help families with home economic problems. She told of one family with a retarded teenage mother whom she taught simple housekeeping skills, meal planning, and cooking to improve her ability to care for her family. In Denver, Colo., teaching homemakers in the comprehensive health care projects accompany mothers to the grocery store to guide them in how to buy wisely. Helping families to become wise consumers can sometimes make the difference between an adequate and inadequate food budget.

4. ***Reaching young people early with nutrition education*** to lay the foundation for good nutrition practices. I am not referring here to the kind of nutrition education found by Sliepcevich and Creswell[7] in their school health education study. In that study more than 50 percent of the respondents in a random sample of large, medium, and small school districts reported that "food and nutrition" was a topic emphasized in repetitive fashion in every grade from kindergarten through grade 12. Rather, I am referring to the educational methods being used in many day-care and nursery school programs for young children where nutrition concepts are developed through exploitation of meaningful learning opportunities such as marketing or preparing dishes that are typical of the different ethnic groups represented by the children in the group.

Other efforts to reach young people with nutrition education include the special comprehensive programs for teenage pregnant girls carried on cooperatively by health agencies, social agencies, and school boards.[8] Nutritionists and home economists serving in these programs devote time to consumer education, food selection and preparation, grooming, child care,

and many other areas of interest and need. Home economists working in these and other programs report that many expectant and actual mothers seem to be particularly interested in learning how to sew, and that an informal sewing class can provide an excellent opportunity for discussions of wise food selection, good buys in food, and many other aspects of nutrition.

Bases for effectiveness

Undergirding the nutrition education efforts in maternal and child health programs are attempts to assess the type and magnitude of nutritional problems, to evaluate the community resources available to deal with such problems, and to work cooperatively with other agencies that can help make nutrition education effective rather than an exercise in futility.

For example, workers in maternal and child health programs know that one can motivate parents to improve food habits and teach them what to feed children, but if the parents do not have access to adequate food, such efforts are in vain. Therefore, they devote a great deal of time and energy to working with all types of community resources for making appropriate food available to children and their families—the food stamp and donated foods programs of the Department of Agriculture, the feeding programs of Head Start and other day-care centers and schools, and public assistance programs—to maximize their benefits to mothers, children, and other members of families. Many of them are now involved in local or State plans for participation in the Supplementary Food Program for Low-Income Groups Vulnerable to Malnutrition, recently established by the Department of Agriculture in cooperation with the Department of Health, Education, and Welfare and the Office of Economic Opportunity, to make selected nutritious foods available to needy infants, preschool children, pregnant women, and postpartum and nursing mothers. (See page 78.)

The measure of effectiveness of any nutrition education effort must be the extent of improvement achieved in food habits. To evaluate a program adequately requires specifically defined goals, some baseline data against which to assess progress, and objective criteria to determine whether a goal has been achieved. Cognizant of the importance and need for evaluation of their efforts, workers in maternal and child health nutrition education programs are trying to do something about it. In many programs, for example, they have been gathering data on the incidence of iron-deficiency anemia among young children served by the projects that can be used in the future as a base against which to compare the incidence of anemia in children of families that have received nutrition services.

Considerable progress has been made in many families as a result of nutrition education, but some of the old, familiar nutrition problems continue. Many people still do not have the benefits of an adequate diet. Obesity, iron-deficiency anemia, dental caries, and other nutrition-related diseases are still prevalent. In addition, new problems in nutrition are constantly being created or discovered as a result of changes in living patterns, new research findings in biochemistry, medicine, and food technology, and developments in advertising techniques. There will continue to be much to do in nutrition education for mothers and children, but, as it has been said, "Every tomorrow has two handles. We can take hold of it by the handle of anxiety or the handle of faith." [9]

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[1] Owen, George M.: Nutritional status of Mississippi preschool children. (Unpublished report.) (See "Here and There," *Children*, Nov.–Dec. 1968, p. 244.)

[2] Fomon, Samuel J.: Analysis of data collected from comprehensive health services projects for children and youth, March–April 1968. U.S. Department of Health, Education, and Welfare, Social and Rehabilitation Service, Children's Bureau. Washington, D.C. 1968. (Unpublished report.)

[3] Nelson, W. E. (ed.): Textbook of pediatrics. W. B. Saunders Co., Philadelphia, Pa. 1964. (See tables 10 and 11 on pp. 49–53.)

[4] Gil, David G.: Nationwide survey of legally reported physical abuse of children. *In* Papers on social welfare, No. 15. Brandeis University, Waltham, Mass. 1968.

[5] ———: A research note on malnutrition of children. (Unpublished paper.)

[6] Keliher, Alice V.: Parent and child centers—what they are, where they are going. See page 63 of this issue of *Children*.

[7] Sliepcevich, Elena M.; Creswell, William H.: A conceptual approach to health education: implications for nutrition education. *American Journal of Public Health*, April 1968.

[8] Howard, Marion: Comprehensive service programs for school-age pregnant girls. *Children*, September–October 1968.

[9] Hay, Gilbert (ed.): This way to happiness. Simon & Schuster, New York, N.Y. 1967.

a report from abroad . . .

NEW ZEALAND'S DENTAL SERVICE for CHILDREN

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Forty-eight years ago, the New Zealand Department of Health adopted the idea of training young girls, through a concentrated 2-year course to accept the responsibility for the routine dental health care of children, as an answer to a need too widespread for the available dental manpower to meet. Through an evolutionary rather than a revolutionary process, the Department has, in the intervening years, developed a national dental care service for children that uses some 1,300 young women so trained to provide the basic treatment. Called the New Zealand School Dental Service, the program has been built up procedure by procedure, technique by technique, building by building, until today it is bringing routine dental treatment to well over 90 percent of the pupils attending the state, church, and other private primary schools in New Zealand and over 60 percent of the children in the nation who are between 2½ and 5 years of age.

The New Zealand School Dental Service is operated entirely by the Government through the dental division of the Department of Health. Through school dental clinics, it gives routine examinations and basic treatment to children from the age of 2½ years until they finish primary school, usually at 12½ years of age. These statements, without further explanation, might leave the impression that dentistry in New Zealand is fully socialized. This is not so. The integration of the school dental system with private practice is one of the most interesting facets of the program.

The definition of the scope of the service is clear and rigidly observed. Types of treatment not covered in the clinic are made available through private practitioners and paid for by the Government as a health benefit. Payment for specialist work, such as orthodontia, is not included and is the responsibility of the parent.

When children reach secondary school, they are asked to register with the private practitioner of their choice under the general Dental Benefits Program. Here, again, the Government meets the cost of all treatment except that classified as specialist work. Almost all private dentists are available to enroll secondary school pupils, who remain eligible until their 16th birthday. Since there is no provision for dental health benefits for people over 16, three-quarters of the population remain as potential private patients.

Thus, the private practitioners in New Zealand play a specialized role in treating preschool and primary school children; and they receive children from secondary school who have already been trained to accept dental treatment and thereby represent a nucleus of patients whose fees are assured.

Experience has shown that the majority of young people who have been enrolled in the program continue to attend the dentists' offices routinely after they pass their 16th birthday. A recent survey [1] carried out on 16- to 21-year-olds shows that 67 percent of male patients and 77 percent of female patients continued to report for dental treatment after the Government financial responsibility for payment ceased.

In New Zealand indigent people of any age can get dental treatment through their local public hospital administration. Special dental services are also provided for members of the armed services, for hospital patients, including those in psychiatric hospitals, and for prison inmates.

Perhaps the most frequent question asked about the New Zealand system of dental care is, "How is it possible to prepare a 17-year-old girl in only 2 years of training to accept the responsibility for dental treatment and to carry out basic dental procedures with only indirect supervision from a dental officer who may be as many as 200 miles away?" The answer is contained within the history of the system's development [2] and the principles of organization that have been adopted for it.

Beginnings of the program

At the start of the 20th century, dentists in New Zealand were beginning to bring the poor state of the children's teeth to public notice. The widespread need for dental care was reemphasized during World War I, when routine examination of the troops confirmed dentists' suspicions of a high rate of dental

decay and loss of teeth among young people. At that time, the population of New Zealand was only 1,200,000 and dentistry was just beginning to emerge as a major profession.

When in 1920 the Government decided to establish a school dental service, it charged Colonel T. A. Hunter with the task. Colonel Hunter had been director of the Army Dental Corps during the war and was prominent in the then young New Zealand Dental Association. His acceptance of the task initiated the chain of events that eventually led to a completely new concept of dental treatment for the population.

Today the dental service is only one of many rapidly growing government health services. When it was introduced—interestingly, by a conservative government—the idea of government providing a treatment service was not so widely accepted. Moreover, the dental profession was far from unanimous in approving the proposed scheme to train young women to give dental treatment. Colonel Hunter, however, had the vision, enthusiasm, and influence to enable him to go ahead with it. He selected and began training 35 young women as the first school dental nurses.

Colonel Hunter's first thoughts undoubtedly were to alleviate the distressing infection and pain in children's mouths. In those days, headmasters of schools commonly were confronted in their offices with a daily procession of anguished children asking for relief from toothache. At that time, few dentists were available, especially in rural districts, and only a very small proportion of these were prepared to give young children the kind of treatment that would conserve their teeth. Palliative measures were commonly all that were taken and even then only the most persistent toothaches found their way to the busy dental or medical practitioner, or to the pharmacy, which was ill-equipped for such operations. But Colonel Hunter could see the possibility of training young women not only to extract teeth and fill cavities but also to change children's dietary patterns so that tooth decay would be prevented. In fact, it was the preventive aspect of the new program that appeared to give drive to his leadership.

From this strange beginning, the modern New Zealand version of "incremental care" evolved.

In the first decade of the service, treatment was restricted to only a few age groups to keep the patient load to a size that could be managed by the limited staff. However, certain policies were formulated to allow for its systematic growth. What effect the experience of these earlier years had on the destiny of the dental profession makes for interesting conjecture. In 1938, the newly elected Labour Government socialized general medical and pharmaceutical services for all ages. Dental benefits were not included until 1946, when an upper age limit of 16 was set for the patient. The wisdom of this restriction is now evident as over the intervening 20 years the combined efforts of the state service and private practice have only just been able to keep pace with the expanding population.

Over the years, naturally, many changes have been brought about in the interest of progress, but certain features have remained an essential part of the School Dental Service. These stable features include limitation of the number of patients in treatment groups, the securing of parental consent to treatment, and the use of local dental clinic committees.

Controlled patient groups. Before the introduction of the school dental nurses, few children in New Zealand were receiving systematic dental care. The new organization had therefore to decide on priority groups to receive treatment from the limited staff. The nurses began with the younger children and, through routine appointments, made them dentally fit. New patients from the higher grades were added to the rolls only if taking them on would not prevent the children already on the rolls from being given further treatment in 6 months' time. In this way a controlled group of patients was built up in each clinic. In the fully developed service each nurse has approximately 450 children on her roll, although in some areas receiving the benefit of water fluoridation the figure is more than 700.

Consent to treatment. One of the first difficulties the service encountered was public apathy, and indeed at times public fear of dentistry. Nevertheless, it became apparent that to protect the dental nurse or other operator, no child should be accepted for dental treatment without the parent's consent. A special form was devised for the children to take to their parents, offering treatment for the child on the condition that he attend the clinic regularly and observe the rules for good dental health. Of course, it is not possible for the service

Children in a New Zealand classroom listen to their school dental nurse tell them how to take care of their teeth in a program of the national School Dental Service.

A school dental nurse, one of 1,300 in New Zealand who give basic treatment to children between 2½ and 16 years of age, amuses one of her young patients.

always to apply the latter condition strictly. However, having such a requirement educates the children and parents on the importance of returning for regular reexaminations and keeps the preventive intent of the program before the public.

In spite of these requirements, most of the children in New Zealand receive dental care routinely.

Dental clinic committees. In the early days of the service, the Government did not provide clinic staff and equipment for all school districts. A community would be given nurses only if the local people could provide accommodations suitable for a dental clinic. This prerequisite led to the establishment of local dental clinic committees to look after the local administration, which included not only providing a dental clinic but also making arrangements for cleaning and laundry and, if necessary, finding an acceptable place for the dental nurse to live. The dental clinic committees were also responsible for arranging transportation to the clinics for children from outlying schools at no expense to the department. But perhaps their most valuable contribution was the development of community acceptance of the program in its early experimental stages.

Today the Government supplies the buildings for the clinics and the funds for running expenses. The local dental clinic committees, however, still play an essential role in the program. As representatives of the parents, they provide a close liaison between the department and the public and give support to the nurses' dental health education program in the schools.

In reporting on its observations of the New Zealand School Dental Service in 1950, the United Kingdom Dental Mission [3] called the dental clinic committee "one of the most interesting features of the organization."

Principles and program

Simplicity, standardization, and stabilization are the cornerstones on which the success of New Zealand's public dental auxiliary service is built.

All staff training is given in the simplest form possible. Various techniques are studied and, after trials, a suitable one is selected and taught to the exclusion of all others. For example, the dental nurses are taught to use only one type of amalgam, one type of cement, and one type of synthetic porcelain. Similarly, records and equipment are kept as simple as possible for the sake of efficiency.

After a satisfactory training formula has been standardized, it remains as stable as possible. The three schools for dental nurses have the same curriculum so that when a nurse is graduated, she can take over the instant management of any group of patients in any part of the country and know the routine immediately. New graduates can be placed next to older dental nurses without a conflict of ideas. One centrally controlled store supplies standard equipment and dental materials.

For readers who might be thinking that "the three S's," simplicity, standardization, and stabilization, imply two others—"socialization and stagnation" —it should be explained that the system makes adequate provision for orderly improvement. A research officer attached to the School Dental Service is continually evaluating older methods of working and testing new ones. If the organization decides to change a technique, the new method is simultaneously introduced into the three schools for dental nurses and an announcement is made through the *School Dental Service Gazette*, an 8-page, bimonthly house organ. Senior officers check the clinics during their next inspection visits to ensure that the new instruction is being carried out correctly.

For purposes of the program, New Zealand is divided into 13 dental districts, which are controlled by the central directorate of the Division of Dental Health. Each dental district has approximately 100 school dental nurses assigned to it and is managed by a principal dental officer, who in the larger districts has a senior dental officer to help him. Both are graduate dentists. A dental nurse inspector assists in the supervision of nonoperating sections of the work. The principal dental officer inspects each school dental nurse in his area at least three times a year. During the inspection visits the dental nurses are given detailed, constructive written reports, which serve as a part of their continuing education.

About 72 percent of the children enrolled in the program have treatment available to them within their own school grounds. Most of the remaining 28 percent of the children have to travel only a short distance for treatment; a few who live in rural areas have to travel as far as 60 miles.

In regard to the standard of treatment, the United Kingdom Dental Mission [3] reported: ". . . the cavity preparation if anything was on the side of perfection and the finish of the fillings very good." There is no reason to suppose that this high standard has not been maintained.

Training program

The three schools for dental nurses are situated in Auckland, Wellington, and Christchurch. They are run by Government dental surgeons holding university degrees. The characteristics of a promising school dental nurse are in some respects the opposite of those developed through a good university education, in which individual creativity is a predominant goal, for the good school dental nurse must be able to accept discipline and faithfully carry out any instructions given her. She also needs to have a natural ability to manage young children and a high degree of mechanical skill—neither of these

attributes being dependent on a university background. However, a dental nurse cannot be just an automaton. Her duties as a dental health educator require her to be both versatile and vocal. In addition, she must have the rare combination of intelligence and temperament needed for working with a large team.

Each year about 260 girls with at least 3 years of secondary education are selected for training from over 500 applicants. The selection is based on written questionnaires, school reports, and personal interviews.

During the 2 years of training, a student dental nurse works a 35-hour week with 8 weeks of vacation a year, and accepts the discipline of dormitory life. She learns how and when to extract teeth; to fill cavities in both deciduous and permanent teeth, using amalgam and synthetic fillings; and to clean teeth and apply fluoride topically. She also learns the techniques of dental health education from lectures and instruction provided by faculty members of the Polytechnic School and Teachers' College.

Leading members of the dental profession conduct the final examinations. The profession is thereby kept in touch with the training program.

Some results

What are the results of such a comprehensive scheme of dental care for children? Those dentists who have been associated with the New Zealand program for the last 30 years do not need statistics to convince them of the improvement in the condition of children's mouths. Large carious lesions and abscesses, frequently seen in earlier years, have practically disappeared, and the population is much more conscious of the importance of dental health. When the service first began, there were 72 extractions necessary for every 100 fillings. The ratio of extractions to fillings has continuously improved until today it stands at 3.1 extractions to 100 fillings.

Fluoridation of water supplies, once widely resisted, is becoming more and more accepted by local authorities. Now over 60 percent of the population served by New Zealand's network of reservoirs have the benefit of this measure to prevent dental caries.

The results of early dental treatment are now being seen among the older age groups in the dental program too. Only 8 percent of the young people between 16 and 21 years of age who report for dental care require any type of denture. In 1952 the figure for Army recruits was 28 percent.[1]

In helping to achieve these results, the school dental nurses have neither exceeded their prescribed duties nor indulged in any form of private practice. That they have not done so can be attributed to the attitudes developed toward their work during training, and to the standards of conduct demanded of them by the service.

In any country public opinion will allow only a small proportion of the gross national product to be used for dentistry. Any proposal to meet the problem of prevalent dental decay among children found in New Zealand immediately after World War I would have met with failure if it had meant large outlays of funds right from the start. Therefore, the Department of Health began its dental service in a very small way, recognizing the primary need to educate the public to the advantages of dental health and preventive care. However, if treatment of dental disease had not been offered from the beginning it is doubtful whether the public would have become interested in theories of prevention.

Today the system devised in New Zealand to promote the dental health of children is accepted not only there, but also in many other countries. Through a number of international organizations New Zealand has helped the following states inaugurate similar programs: Hong Kong, Brunei, Saba, Sarawak, Thailand, Ceylon, Singapore, Ghana, Sierra Leone, and New Guinea. Recently dental nurses have been sent to Australia to help in training programs in South Australia and Tasmania.

A word of warning is in order, however. The successful development of such a program in any country depends on the quality of the dental manpower already available, the country's social and economic structure, and the support of the dental profession. Almost from the beginning, the New Zealand School Dental Service has been fortunate in having the full support and active assistance of the New Zealand Dental Association.

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[1] New Zealand Department of Health: Dental health status of the New Zealand population in late adolescence and young adulthood. Wellington, New Zealand. 1968.

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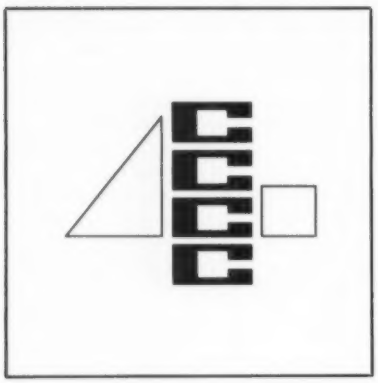
. . . despite our best efforts we will often fail, volunteers and staff alike. We probably never will realize *all* of our hopes or ambitions. But it is painfully clear now that people who are needed can no longer stand aloof, people with ability cannot remain indifferent. *For if you are not part of the solution . . . you're part of the problem.*

Padraic Kennedy, acting director, Volunteers in Service to America, **VISTA *Magazine, Fall 1968.***



THE 4-C PROGRAM

JULE M. SUGARMAN

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If two or more people set out to climb the same mountain at the same time, the odds are heavily in favor of them all reaching the top if they travel together. Pooled rations will go further, combined knowledge of the terrain will help overcome hazards, and the shared experience will be of greater benefit to future travelers than one accomplished alone.

This is the reasoning behind one vitally important undertaking of the Federal Panel on Early Childhood. This panel was established in April 1968 at the request of the White House to develop plans for the most effective use of available operating, research, training, and technical assistance funds in ways to strengthen every program. The panel is also responsible for the coordination of all early childhood programs supported by Federal funds. The Office of Economic Opportunity and the Departments of Health, Education, and Welfare, Labor, Housing and Urban Development, Agriculture, Defense, and Interior (through its Bureau of Indian Affairs), and the Bureau of the Budget are represented on the panel.

There are approximately 4 million children of working mothers in this country today who are less than 6 years old. There are licensed day-care facilities for 500,000 of them.[1] Society has a responsibility to provide sound and effective day-care services not only for these children but for *all* children who need them, regardless of their families' income.

In addition, there are over 2 million economically disadvantaged children[2] who could benefit from part-day preschool programs, and millions of advantaged children who also need such services.

While buildings, money, expertise, resources, and persons qualified to man the programs are in woefully short supply, what there is to work with will go further and do a better job in meeting the needs if efforts to serve children are coordinated at the Federal, State, and local levels.

As a matter of fact, Congress has instructed the Department of Health, Education, and Welfare and the Office of Economic Opportunity to do just that. Under the 1967 amendments to the Economic Opportunity Act, the Secretary of Health, Education, and Welfare and the Director of the Office of Economic Opportunity have been charged with coordinating all programs under their jurisdiction that are concerned with the provision of day care.

The purpose

In order to carry out these instructions, the Federal Panel on Early Childhood has initiated the Community Coordinated Child Care (or 4-C) Program. The underlying purpose of this program is to encourage agencies providing day-care and preschool services to work together to stretch their resources, cut out waste and duplication, and improve and expand the quality and scope of their services. If they do so, more families will be reached; staff competence will be improved; parents will have a more effective voice in policy and program direction.

What, in essence, does a 4-C Program mean to a community? It means that early childhood programs run, say, by the local public welfare department, United Givers' Fund, Project Head Start, and a proprietary agency are in a better position to coordinate their efforts, combine to strengthen individual program weaknesses, and share training services. In some communities, they may even combine their operation under a single administrative unit.

Communities that make such coordinating efforts may be eligible to receive joint funding from a number of different Federal sources.

As a first step in developing a 4-C Program, the agencies need to agree on their respective missions: which agency will serve which type of children in what parts of the community? This is not to say that overlapping jurisdictions may not be useful in order to give parents choices, but only that such decisions should be arrived at consciously.

Working together

Cooperative efforts can be carried out in the following basic areas:

- Program coordination, such as joint medical, dental, and psychological services; joint action in cultural, recreational, and parent activities; the joint use of staff—for example, the sharing of a nurse, nutritionist, or other specialist.

- Staff development, through common training programs, the exchange of personnel for training purposes, and the visiting of staff members between the programs.

- Administrative coordination, in such ways as joint purchasing arrangements, common business services, and joint personnel recruiting systems.

Programs may arrange for one agency to supply a specific service, such as food catering or group educational activities, to all other agencies; referral systems may be established to ease the transfer of a child from one program to another; staff, supplies, and equipment may be loaned between programs; and new or small agencies may assign staff members to work temporarily in an established agency for training purposes.

How are all these things carried out within a community?

First, any public or private organization that wishes to do so convenes a meeting of all interested persons to dis-

cuss the overall concept of the 4–C Program as it might relate to the community's existing programs and needs. Representatives from existing advisory groups of parents (from Project Head Start and other day-care programs) are given an important role in this initial step.

If the consensus of the group is that the 4–C Program should be introduced into the community, a temporary steering committee, with membership drawn from the City Demonstration Agency (a Model Cities Program), if one exists in the area, the local health and welfare council, and other public and private social planning groups, is charged with the responsibility of drawing up a plan outlining the specific areas of coordination it would like to explore. The plan will describe the suggested form of the coordinating mechanism. This may be an existing organization, such as the mayor's planning and coordinating office, a local welfare agency, a health and welfare council, a community action agency, or a Model Cities agency. Or it may be an entirely new agency, to be created for the purpose.

Whichever method is decided upon, the plan must provide for the establishment of a policy committee to act as the governing body of the 4–C Program. This committee will be composed of representatives of public and private agencies that are participating in the program, either as providers of services or as groups interested in the development of programs for children and families. Parents of children enrolled in day-care programs must constitute at least one-third of the policy committee.

When the plan is completed, a request may be made for technical assistance to the appropriate Federal Regional 4–C Committee. If the request is approved, the Federal Regional 4–C Committee forwards it to the Day Care and Child Development Council of America, which is under contract to OEO on behalf of the Federal Panel on Early Childhood to provide the technical assistance. This assistance can, in some cases, include funds for hiring local planning staff.

The nine Federal Regional 4–C Committees are located in the appropriate regional offices of HEW and are made up of representatives of HEW, HUD, OEO, the Department of Labor, and, in some cases, the Department of Agriculture and the Bureau of Indian Affairs, Department of the Interior.

Because of the deep involvement of State agencies in decisions concerning day-care and preschool programs, State counterparts of the Federal Regional 4–C Committees are also being established. Each community's plan for a 4–C Program will receive a final review from the State committee before being forwarded to the regional office for acceptance and recognition.

Some advantages

While the Federal Panel on Early Childhood is making it clear that the 4–C Program does not provide the community with any additional sources of operating funds, there are certain practical and material advantages to communities that join the program, besides the technical assistance already mentioned.

The Children's Bureau is considering reserving a portion of its funds for short-term training institutes in 4–C communities. These funds can only be granted to institutions of higher education. While funds under the Education Professions Development Act of 1967, administered by the Office of Education, may also be used for training nonprofessional personnel, such funds will not be available until 1970.

In addition, recent trends suggest that future legislation in the day-care and preschool areas may include preferences for coordinated communities.

In the immediate future, the 4–C Program will be operating on a pilot basis, with some 27 communities taking part. Meanwhile, many areas are going ahead with their planning in readiness for the day when Community Coordinated Child Care Programs will be the universal means by which strong and effective day-care services are available to *all* our Nation's children who need them.

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HERE and THERE

Nutrition

Late in 1968, the U.S. Department of Agriculture launched a new program to provide nutritious food to needy expectant, postpartum, and nursing mothers, infants, and children under 6 in addition to food they may already be receiving under the USDA's food stamp or donated foods programs. Called the Supplementary Food Program for Low-Income Groups Vulnerable to Malnutrition, the program was planned in cooperation with the Department of Health, Education, and Welfare and the Office of Economic Opportunity for persons with special nutritional needs who do not have an adequate food supply.

To receive the supplementary food, such persons must have been determined to be eligible for free or "substantially free" health care or financial assistance through public welfare or health programs—such as the program of aid to families with dependent children, Medicaid, the Children's Bureau comprehensive projects for health care of mothers and infants and children and youth, and the Indian health program of the Public Health Service—and must have an authorization for specific food items issued by a public health worker, such as a nurse or nutritionist, or a physician serving such programs.

Supplementary foods that may be authorized for recipients include, among others, evaporated milk, nonfat dry milk, farina, corn syrup, canned juices, fruits, vegetables, scrambled egg mix, canned poultry, peanut butter, and potatoes.

To get a special supplementary food program underway locally, arrangements must be made between an interested health agency and the office of State government administering USDA's Commodity Distribution Program, the initiating move coming from either. The costs of the food are met by the Department of Agriculture, but the costs of storage and distribution must be met by local or State governments or other community groups.

To encourage the provision of nutrition education to recipients of the supplementary food, the Children's Bureau and the USDA's Consumer and Marketing Service have prepared special educational materials which may be obtained from either agency.

Public assistance

The regulation of the Maryland State Department of Public Welfare setting a maximum for payments to families—regardless of the size of the family—under the program of aid to families with dependent children (AFDC) was ruled invalid by a three-judge Federal district court in Baltimore, Md., on December 13, 1968. In the case of *Williams* v. *Dandridge*, the court held that the family maximum grant regulation violates both the Social Security Act and the equal protection clause of the 14th amendment.

Nineteen other States also apply maximum grant regulations of various types in their AFDC programs.

The Maryland maximum grant regulation provides that a family living together as a unit may not receive more than $250 per month from the AFDC program if living in Baltimore City or $240 in other parts of the State. In effect, this means that the family cannot receive additional payment for any child beyond the fourth if both parents are in the home, or beyond the fifth if there is only one parent in the home.

The court found that such a maximum on the grant violates the requirement of the Social Security Act that payment must be provided for all eligible persons and is contrary to the act's purpose of keeping families intact. The court also observed that the only purpose of the maximum grant regulation seemed to be to fit the State's provision for its dependent children into an inadequate welfare appropriation.

The suit was filed against members of the State Department of Public Welfare and the Maryland and Baltimore directors of public welfare on behalf of two Baltimore families, each of whom receives maximum AFDC grants of $250 monthly. The court noted that, under standards of need formulated by the Maryland State Department of Public Welfare, one family, consisting of a mother and eight minor children, is entitled to $296.15 and the other, consisting of a disabled father, a mother, and eight minor children, is entitled to $331.50.

. . .

White families accounted for 51.3 percent of all families receiving assistance in the 50 States and the District of Columbia under the Federal-State program of aid to families with dependent children in November and December 1967, according to preliminary figures of a study based on a sample survey by the National Center for Social Statistics, Social and Rehabilitation Service.

The study also showed that in late 1967 seven in 10 AFDC families lived in metropolitan areas, with four in 10 living in cities of 250,000 or more. The proportion of families receiving payments of $200 or above increased from 12.6 percent in 1961 to 28.7 percent in 1967, but the proportion receiving $100 to $199 remained at about 40 percent. Families with fathers absent from the home increased from two-thirds in 1961 to almost three-fourths in 1967. In 1967, 6.6 percent of the mothers in the AFDC program worked full time and 7.1 percent worked part time. Among other findings of the study: in 19 percent of the families, some member had received family planning services before or during 1967; in 8 percent, at least one family member had been referred for vocational rehabilitation; in 16 percent, at least one member had been enrolled in work or training programs; in 3.1 percent, at least one child had received

crippled children's services, in 3.4 percent, child welfare services, in 0.6 percent, both; 25 percent of the families participated in the donated food program of the U.S. Department of Agriculture and 22 percent participated in the food stamp plan.

. . .

Federal matching funds for legal services provided to recipients of public assistance are now available under a new program of the Social and Rehabilitation Service. In general, the Federal Government pays 75 percent of the cost of such services for recipients of the program of aid to families with dependent children and States or localities pay 25 percent.

The program is optional with the States and is designed to give legal help to recipients of public assistance in a broad range of actions, including landlord-tenant disputes, divorces, and consumer problems; it does not cover criminal and claims cases. Where feasible, the services are to be purchased from the Office of Economic Opportunity and other community legal assistance programs. One of the objectives of the SRS program is the provision of legal services of high quality.

Day care

Three Government agencies—the Department of Health, Education, and Welfare, the Department of Labor, and the Office of Economic Opportunity—have jointly issued requirements for all child day-care programs that receive support from Federal funds. The requirements, developed by the Federal Panel on Early Childhood, apply to all new facilities now and to existing programs within a "reasonable time."

The new requirements are designed to maintain, extend, and improve day-care services, whether they are operated directly by an agency that receives Federal funds or contracted to another agency.

Requirements on grouping of children apply to the following types of child-care arrangements:

• *Family day-care home.* In caring for infants, the day-care home is limited to two children under 2; if one child is under 2, no more than five children under 14 can be in the home, including the family day-care mother's own children. For children from 3 through 14 years, no more than six children can be in the home, including the mother's own children. At least one adult must be in the home at all times, with another adult on call in case of emergency.

• *Group day-care home.* For children from 3 through 14 years, groups may range up to 12 children, but the child-staff ratio must not exceed 6 to 1 for school-age groups or 5 to 1 for preschool groups. No child under 3 may be in this type of care.

• *Day-care center,* which includes one or a number of groups of children divided by ages. For children of 3 and 4 years, there should be no more than 15 children in a group, with a normal child-adult ratio of 5 to 1; for 4- to 6-year-olds, no more than 20 children in a group, with a normal child-adult ratio of 7 to 1; for children of 6 through 14 years, no more than 25 in a group, with a normal child-adult ratio of 10 to 1. Volunteers and teenagers may be used to assist staff members.

Under the requirements, all day-care facilities must be licensed by State authorities, or—if licensing laws do not apply—must meet the standards for such licensing, including safety and sanitation regulations.

The Federal regulations require that each child entering day care be provided a medical and dental examination and followup treatment if needed; educational opportunities supervised by a staff member trained or experienced in child development; and social and nutritional services. They require that the day-care staff be provided with continuous inservice training; that nonprofessional staff members be given opportunities for career development; and that parents be encouraged to become involved in program planning. They also require that any agency providing day care for 40 or more children establish a policy advisory committee, with parents consisting of at least half of the membership.

Copies of the requirements may be obtained from the Children's Bureau.

Dental care

Eighty percent of the dentists in private practice in a tri-state area around Cincinnati, Ohio, are willing to give dental care to mentally retarded children in families already under their care if the children are manageable in ordinary dental situations, according to a survey carried out in the summer of 1967. The survey involved interviews with 148 dentists in 15 counties of Kentucky, Indiana, and Ohio. It was conducted by the Tri-State Comprehensive Planning and Implementation Project for Mental Retardation, a voluntary organization directed by Ruth Latimer and supported with a Federal grant from the National Institutes of Health. The dentists reported providing routine dental care to about 1,100 mentally retarded patients each year. Of these patients, 12 percent were under 6 years of age and 82 percent were between 6 and 21.

In a related survey also conducted by the project, a questionnaire mailed to dentists in Hamilton County (Cincinnati), Ohio, showed that 104 dentists there annually care for about 740 mentally retarded patients, of whom 75 percent are under 22 years of age.

As a result of these surveys, the Tri-State Project has prepared a directory of dental services for the retarded, with a list of 85 dentists who accept such patients. (Single copies may be obtained from the Tri-State Project, 2400 Reading Road, Cincinnati, Ohio 45202.) In addition, the Children's Hospital in Cincinnati plans to offer classes for the 154 dentists who indicated interest in the techniques of dental care for the mentally retarded.

Child development

In New Mexico parents are learning how to give their children a better chance for success in school under a Parent Orientation Readiness Program (PORP) operated by local committees and coordinated by the State Department of Education.

The local PORP committees include at least five parents and teachers who work closely with local schools in coordinating activities. The committees keep accurate records of the names, ages, and addresses of all preschool children in the community; they arrange group meetings for parents that present movies, demonstrations on ways to prepare children for school, and discussions. They also seek to get parents of culturally deprived children as well as other children more closely involved with schools.

Home visits are an important part of the program. Parents are recruited and trained to make informal visits to other parents in which they build rapport and stimulate interest in PORP.

The visitors distribute and discuss copies of "Help for Parents in Getting Children Ready for School," a list of 20 suggestions printed in English and Spanish.

Suggestions include: Listen to, talk with, read to, and praise your child; show a real interest in him; take him with you to stores, parks, and other places you visit; give him responsibilities; accept your child as he is, teach him good health and safety habits and good manners, and be consistent with discipline.

R. J. Ingebritson is state coordinator for PORP in New Mexico.

Child welfare

A child born out of wedlock cannot be found by a Maryland court to be neglected on the sole ground that he lives with a mother who has another child born out of wedlock, according to a recent decision of the Court of Appeals of Maryland. In a 4-to-1 decision issued on December 3, 1968 (*In re Barbara Jean Cager et al.*), the court reversed a 1967 ruling of child neglect and an order for foster home care by the Prince Georges County circuit court in a case involving three infants born out of wedlock who lived with their mothers and siblings who were also born out of wedlock. The appeals court stated that "the best interest of the child" is the ultimate consideration under the Maryland law in neglect cases that seek to remove a child from his mother's custody. The court also held that neglect proceedings cannot be based on confidential information that mothers are required to supply in applying for aid to families with dependent children. The court pointed out that under both Federal and State regulations information about a father who does not support his child can be used only for purposes directly connected with the administration of welfare programs.

. . .

Plans to provide financial aid to some adoptive families have been authorized in California and New York under laws enacted by the State Legislatures in 1968.

Effective September 1, 1968, the New York law authorizes payment through public funds for care and support of a child adopted in the State by a couple in whose home the child was previously boarded as a foster child. The law is intended to expand the chances of finding permanent homes for "special" children—those in sibling groups, of minority races, of older ages, or with medical problems. It is administered by local public and voluntary agencies under guidelines from the New York State Department of Social Service.

The amount of the subsidy is determined by the local commissioner of social services, who will annually review with the adoptive parents the need for continuing the payment. Medical expenses not otherwise covered may also be provided.

The California law provides for a 2-year pilot program under the State Department of Social Welfare, beginning on January 1, 1969, to encourage the adoption of children for whom permanent homes are not readily available because of age, physical handicaps, or ethnic background. It authorizes subsidies from State and county funds to be paid to adoptive parents of children who have physical handicaps during the preadoption placement period and up to 3 years after the adoption has been completed. The total amount of payments under this program must not exceed the amount of foster care payments that would otherwise be provided during the same period.

The law requires the State Department of Social Welfare to carry out a public information campaign on the availability of children for adoption and evaluate its effectiveness; and to analyze the extent to which adoption subsidies increase the number of adoptions, especially among lower income families, and the amount of financial assistance needed by adoptive parents.

Under another new California law, any physically handicapped child who is eligible for medical care under the State crippled children's services at the time of placement and whose handicap is diagnosed before the adoption is granted by the court may continue to receive such services, without regard to the income of the adoptive parents.

. . .

After the State of Minnesota revised its child abuse reporting law in 1965, the number of abuse cases reported in Hennepin County (Minneapolis) appreciably increased. The 1965 statute requires doctors, nurses, hospitals, and others who suspect that a child's injury has been caused by abuse to notify the police and the county welfare department verbally and in writing. Nine cases were referred to the welfare department's child protective service in 1965; 22 in 1966; 34 in 1967.

Of the 60 cases referred to the protective service after the law was revised in July 1965, through December 1967, 23 were referred by the Hennepin County General Hospital; 11 were referred by private physicians; 9 by the police; 4 by a school social worker; 2 each by the department's division of aid to families with dependent children, private hospitals, school nurses, and public health nurses; and one each by a relative of the child, a private social agency, a day-care mother, a private nurse, and the welfare department of another county.

These and other figures are contained in a mimeographed report prepared by Edward J. Kosciolek of the department's Child Service Division.

Premature children

Evidence that early prematurity exacts a heavy toll in intellectual and physical handicaps has been pinpointed in a study recently completed by the University of Chicago School of Medicine and Clinics. The retrospective study matched 65 children born prematurely in the Chicago Lying-In Hospital between 1952 and 1956 with 65 full-term babies according to sex, twin or single status, type of delivery, parity of mother, onset of mother's pregnancy, and family's socioeconomic status and compared their developmental status 9 to 14 years after birth. All the premature children weighed less than 1,500 grams (3.3 pounds) at birth. F. Howell Wright, M.D., professor of pediatrics, was principal investigator for the study, which was supported by the Children's Bureau.

The research team found that, according to the Wechsler Intelligence Scale for Children, 44 percent of the premature children were mildly or moderately retarded compared with 8 percent of the full-term children; and only 11 percent of the premature children were above average compared with 46 percent of the full-term children. One child, however, who at birth weighed less than 3 pounds, scored 141 on the intelligence scale, second highest in the total group.

Children in both premature and control groups were given physical, neurological, hearing, eye, and psychologic examinations by physicians at the University of Chicago Clinics or by private physicians unaware of the subject's birth status; in addition, medical and social histories were taken.

In comparing 59 matched pairs of children, the investigators found that 41 of the controls were taller and 39 of the controls weighed more. The premature children had a greater number of physical handicaps; for example, 35 percent of the premature children and 8 percent of the controls had paralysis, seizures, or deafness; 20 percent of the prematures were partially or completely blind but none of the controls was so affected; 26 percent of the prematures and 6 percent of the controls had other handicaps or diseases. However, the premature children did not show any more neurotic traits (bedwetting, nailbiting, thumbsucking, or rocking) than did the full-term children, as reported by the parents.

In the premature group, 17 percent were unable to attend school and another 17 percent were not doing satisfactory schoolwork; in the control group, only 3 percent were out of school or failing.

More mothers of the prematures had been threatened with miscarriage during the pregnancy and more had received barbiturates and thyroid medication; but more mothers of the full-term children were overweight before and during pregnancy.

Training subprofessionals

Experimental vocational and technical education programs to train subprofessional aides for skilled jobs with career possibilities in public service are being developed by five new research projects supported by the Office of Education with funds authorized under the Vocational Education Act of 1963. The projects are being conducted by the Institute for Local Self-Government, Berkeley, Calif.; the National Education Association, Washington, D.C.; New Careers Development Organization, Oakland, Calif.; New York University, New York, N.Y.; and the Young Men's Christian Association of Metropolitan Chicago, Chicago, Ill.

Before developing the education programs, the projects' researchers will study the kinds of public service jobs that subprofessionals can perform and the skills they require. They will then assign the tasks and skills to levels on a career ladder consisting of entry-level to professional jobs.

The training courses will be given at the high school, postsecondary, and college levels as part of inservice training or in short-term adult education classes. They will be focused on work in municipal government, law enforcement, social welfare, recreation for the disabled, and audio-visual instruction. For example, the project in Berkeley will develop junior college courses for subprofessional aides in municipal government for work as city inspectors, planning aides, and officials in personnel, finance, and public works departments; the one in New York City will design courses for high school, community colleges, and adult education programs to train recreation aides for work in hospitals, extended medical care facilities, homes for the elderly, and municipal centers.

In addition, the Office of Education is supporting four projects to provide postsecondary and junior college courses to train subprofessional aides for careers in the biomedical, nuclear medical, electro-mechanical, and electro-optical fields. These are administered by the Technical Education Research Center, Inc., in Cambridge, Mass.

. . .

Technical training for jobs as oceanographic aides is being given to 120 disadvantaged young men between the ages of 16 and 22 from inner-city areas of Washington, D.C., in an experimental program operated by Ogden Technology Laboratories, Inc., with funding from the Department of Health, Education, and Welfare and the Department of Labor.

The first group of 60 trainees began the 40-hour week, 20-week course aboard the oceanographic ship *The Explorer* at the Washington Navy Yard in January. The final group is scheduled to complete its training in November.

The young men were recruited for the program by and receive allowances from the District of Columbia Department of Employment Security. The testing and final selection were done on the ship by Ogden Technology Laboratories staff members. Because about half of the trainees have less than an eighth-grade education, the six instructors have devised a special curriculum that combines basic studies in English and mathematics with practical aspects of seamanship, oceanography, and marine biology.

The project has already received requests from marine science industries and government about the availability of oceanographic aides who complete the course.

Nurse assistants

As a result of a 3-year demonstration project in the use of nonprofessional persons as school nurse assistants, the Oakland, Calif., school system has hired 19 nurse assistants to work in elementary schools under the supervision of school nurses. Conducted between September 1965 and June 1968, the project involved the training and use of three nonprofessional persons to handle routine health room duties, thus allowing three school nurses to redirect their services to tasks requiring more of their professional skill. Supported with a grant from the Children's Bureau, it was directed by Doris S. Bryan, with the assistance of Thelma S. Cook as study coordinator.

The three schools in which the demonstration was carried out were matched for control purposes with three schools in which the professional school nurses did not have assistants. All the schools had highly mobile, culturally diverse populations, including a large proportion of students from low-income families. Their enrollments ranged between 800 and 1,100 children each. For the first three semesters, the study cohort consisted of 512 kindergarten children; for the second three semesters, 479 children. Nurses in the three schools in the experiment were asked to spend 50 percent of their working time in providing professional services to the children in the study cohort, including home and school contacts with their parents, but because of other commitments, the nurses actually spent about 38 percent of their time with these children or their families.

Assistants attended a 20-hour course and spent 4 weeks as observer-participants in inservice training. Their duties included giving first aid for minor injuries, testing vision, keeping records, following up on immunizations, and maintaining supplies.

An evaluation committee of experts in school nursing reviewed the findings of the study in May 1968 and concluded that the project met its three objectives by—

• Determining that a planned program of personal contacts by school nurses with parents, both at school and in the home, increases parental action toward maintenance and promotion of the health of the school child and the prevention of illness. Data show that parents of kindergarten children in the experimental group returned health inventories and reports and followed through on referrals about twice as often as parents in the control group.

• Developing a program for full-time nonprofessional nurse assistants who carry out under supervision specific routine functions ordinarily performed by qualified school nurses, thus releasing the school nurse to devote more time to professional activities.

• Determining that the school nurse can actually use the released time for exercise of specialized nursing knowledge and skills, including such professional services as parent counseling, parent education, preventive health activities, work with parents of children with special health needs, and concentrated nursing service for pupils in kindergarten and their families.

A time-and-activity study shows that nurse assistants in the schools in the experiment spent about 30 to 33 percent of their time in direct child care, compared to 6 to 9 percent for school nurses who supervised them and 18 to 26 percent for school nurses in the control schools. Nurses in the experiment spent more time than the control nurses with parents (including home visits); in health education for students and parents; and in special activities of the project.

Miscellaneous

"There Was a Little Boy . . .," a play for parents about the importance of communication between parents and children, is available for amateur production outside the New York City area from its publisher, the Mental Health Materials Center, 419 Park Avenue South, New York, N.Y. 10016 ($12 for a production package of 6 copies). The play can be performed by two women and three men; a guide for audience discussion is published with the script. Play Schools Association, a voluntary nonprofit agency in New York City, commissioned Barbara Kay Davidson to write the play for its 50th anniversary.

films on child life

Charges for rental or purchase may be obtained from distributors.

HAVE A HEALTHY BABY. 20 minutes; sound; color; purchase.

Through animation, depicts the process of fertilization and cell division, pointing out the period in pregnancy that is critical in the formation and development of the baby. Emphasizes the importance of early, adequate prenatal care.

Audience: Lay persons, junior high and high school students, professional and subprofessional persons in maternal health services.

Produced by: Church Films.

Distributed by: Churchill Films, 662 N. Robertson Blvd., Los Angeles, Calif. 90069.

A BRIDGE TO ADOPTION. 27 minutes; sound; color; purchase or rent.

Explains the process through which children are placed for adoption by social agencies by depicting the placement of three children with couples with different backgrounds and incomes in urban, semi-urban, and rural areas.

Audience: General public, staffs of social service agencies, caseworkers, and others interested in adoption.

Produced by: Harvest Films, Inc. for the New York State Department of Social Services, with a grant from the Children's Bureau.

Distributed by: Harvest Films, Inc., 11 W. 42nd St., New York, N.Y. 10036.

GETTING THROUGH. 20½ minutes; sound; black and white; purchase or loan.

Shows situations in school, at home, and in the community that encourage teenagers to smoke and hamper efforts to help them realize the danger of smoking to health. Raises questions for subsequent audience discussion.

Audience: Teenagers and young adults, teachers, youth workers, and parents.

Produced by: Spectrum Associates, for the National Clearinghouse for Smoking and Health, National Center for Chronic Disease Control, U.S. Public Health Service.

Distributed by: Film Distribution, National Medical Audiovisual Center (Annex), Chamblee, Ga. 30005 (short-term loan); DuArt Film Laboratories, Inc., 245 W. 55th St., New York, N.Y. 10019 (purchase).

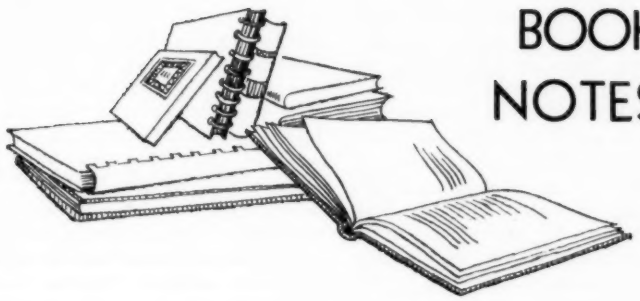
TO PLAN YOUR FAMILY. 14 minutes; sound; color; purchase.

Explains through animation the functions of a woman's reproductive organs, fertilization, and the beginning of growth of a baby in the uterus. Shows methods of preventing conception—the pill, intrauterine devices, rhythm, and mechanical and chemical barriers. Includes interviews with several women who have been using contraceptives successfully.

Audience: Adult and young adult women and men of all educational levels; students; clinic patients; and paramedical workers.

Produced by: Churchill Films.

Distributed by: Churchill Films, 662 N. Robertson Blvd., Los Angeles, Calif. 90069.



BOOK NOTES

SOCIAL CLASS, RACE, AND PSYCHOLOGICAL DEVELOPMENT. Edited by Martin Deutsch, Irwin Katz, and Arthur R. Jensen. Holt, Rinehart & Winston, Inc., New York. 1968. 423 pp. $7.95.

This book, prepared under the auspices of the Society for the Psychological Study of Social Issues, "seeks to clarify the present state of knowledge about social and biological influences on intellectual development," two of the editors say in the introduction. The 11 papers by psychologists are presented in four sections: Biogenetic Perspectives, including a chapter on race and class; Basic Processes in Intellectual Development, including chapters on environment and perception, social disadvantage as related to intellective and language development, and social class and verbal learning; Social and Psychological Perspectives, including chapters on Negro self-identity, teachers' expectations as unintended determinants of pupils' intellectual competence, and factors influencing Negro performance in the desegregated school; Education of the Disadvantaged, including chapters on environment, development and scholastic achievement, early compensatory education, and environmental intervention in infancy and childhood.

EARLY EDUCATION: current theory, research, and practice. Edited by Robert D. Hess and Roberta Meyer Bear. Aldine Publishing Co., Chicago. 1968. 272 pp. $6.95.

This volume containing 16 papers on aspects of the early education of children (from birth to age 6) grew out of a 1966 conference held by the Committee on Learning and the Educational Process of the Social Science Research Council.

The introductory chapter defines early education as "basic socialization" and raises a number of questions pertinent to decisions on how and when such educational efforts are to be applied. Among the issues considered in the research papers that follow are the effects on learning of early stimulation, timing of educational efforts, maternal influences, reinforcement methods, and a responsive environment.

The final chapter summarizes points made in the conference discussions that followed the presentation of the research papers, including these suggested goals: intrinsic motivation for learning, cooperative interaction with others, self-knowledge and self-expression, curiosity and creativity, and complete personality development. Its author points out that two alternative hypotheses, the "deficit model" and the "cumulative model," lead to different kinds of educational efforts for disadvantaged children—the one centered on the development of the specific kinds of skill that the child failed to develop at the appropriate time and the other centered on the goals suggested.

SOCIAL WELFARE IN THE SOVIET UNION. Bernice Q. Madison. Stanford University Press, Stanford, Calif. 1968. 298 pp. $8.50.

A comprehensive study of the Soviet social service system, this book reviews the historical background and philosophy of Russia's social welfare programs and describes current work therapy programs, family and child welfare services, services for the aged, vocational rehabilitation services, and income maintenance programs. The author, a professor of social work at San Francisco State College, includes case histories of Soviet social welfare activities she gathered during a 10-year review of literature and trips to Russia in 1960–61 and 1964–65.

While asserting that the Soviet Union has made substantial progress in social services since the 1917 revolution, Dr. Madison points out that the rapid industrialization of the country exacted a high price in human suffering because traditional institutions and values were destroyed before modern replacements were available.

In comparing social welfare systems of the United States and the Soviet Union, Dr. Madison finds some of the same weaknesses—for example, in both countries, rural communities have markedly fewer social services, social insurance does not cover all people for all risks, and there are too few professional social workers to meet the needs of the citizens. In the future, industrialization will be more important than political systems in determining the nature of society and social problems, she suggests.

FOUR YEARS OLD IN AN URBAN COMMUNITY. John and Elizabeth Newson. Aldine Publishing Co., Chicago. 1968. 570 pp. $9.75.

Using direct quotations obtained during interviews with 700 mothers of children who had celebrated their fourth birthdays within the previous month, the authors describe modern child-rearing practices and attitudes in Nottingham, England. The children were selected on a class-stratified, but statistically random, basis, and included 275 who had been involved in the authors' previous study of 1-year-olds in Nottingham.

Interviewers from the Child Development Research Unit, University of Nottingham, questioned the mothers of the 4-year-olds about such activities as the child's play, eating, and personal habits, bedtime, toilet training, and the mother's use of discipline, her evaluation of the child, the father's role in childrearing, and the family's use of babysitters.

The authors report that parental behavior is modified and controlled by the force of the child's own personality and at the same time by forces of environ-

ment and class. As an example of the effect of the child's personality they tell of one mother who held "intelligent conversations" with her older son at age of 4, but romped with her younger son at the same age.

Among the many differences they found in attitudes between the social classes were "consistent and sizeable" differences toward sexual modesty: professional- or middle-class mothers tend to meet a child's curiosity frankly and openly as early as his own questioning dictates; wives of unskilled workers tend to "suppress" sex information by every means possible.

The authors also found different attitudes between classes in regard to the handling of children's quarrels (middle-class mothers more often act as arbitrators while working-class mothers let children settle arguments themselves), table manners (more middle-class mothers "mind" whether a 4-year-old child has good manners than mothers in unskilled working-class families), and more middle-class mothers than working-class mothers are strict about early bedtime and read or tell bedtime stories regularly to their children.

CHILD CARE AND WORKING MOTHERS: a study of arrangements made for daytime care of children. Florence A. Ruderman. Child Welfare League of America, New York. 1968. 378 pp. $7.50 (paperback).

A change in the current focus of day care from services for children of families with social and emotional problems to services for "normal" families with working mothers is needed in the United States, according to the author of this book, a sociologist who directed a seven-community study of day care from 1960 to 1964.

The author maintains that day care is aimed specifically at one-parent families, the poor, and families in need of casework services, and is seldom available to intact middle-class families. Yet, she reports, the study found that great numbers of "normal, middle-class, intact, responsible families with working mothers" need day care and "even greater numbers" of families want it.

The study was conducted simultaneously in Baltimore, Md.; Caldwell County, N.C.; Cleveland, Ohio; Hartford, Conn.; Memphis, Tenn.; Oakland, Calif.; and Providence, R.I., with local social welfare agencies as cosponsors. Inventories of all child-care facilities in these communities showed a total of 223 day-care centers, 342 nursery schools, 424 family day-care homes, and 395 afterschool groupwork programs.

The study's findings on child-care arrangements were similar to those found in a survey conducted by the Bureau of the Census for the Women's Bureau, Department of Labor, and the Children's Bureau in 1965. (See CHILDREN, July–August 1965, p. 159, and inside back cover of this issue.) Both surveys showed the most common form of arrangement being care by a member of the immediate family, other relative, or maid in the child's own home, and the least common arrangement being group care outside the home. Both showed that large numbers of children are left to shift for themselves (8 percent of the children in the Bureau of the Census study and the children in 7 percent of the arrangements in the study reported in this book).

The author reports that 45 percent of the working mothers in her study said they were satisfied with their arrangements for child care, but 14 percent said they were highly dissatisfied. Care by siblings, care by maids, and children left alone without supervision were behind the greatest dissatisfaction with in-home arrangements. Care in a group facility, although used by only 3 percent of the families, was the most satisfactory arrangement.

THE PARENT OF THE HANDICAPPED CHILD: the study of child-rearing practices. Ray H. Barsch. Charles C Thomas, Springfield, Ill. 1968. 435 pp. $11.50.

Child-rearing practices among middle-class parents of handicapped children were found to be similar regardless of the type of handicap in the survey reported in this book. Conducted by interviews and questionnaires, the survey reached the parents of 177 children, each with a handicap in one of five diagnostic categories: cerebral palsy, minimal brain damage, deafness, blindness, and mongolism. The mean ages of the children in each group were between 5 and 8 years.

While the parents reported some differences in technique dictated by the nature of the child's handicap—such as the greater use of gestures by parents of deaf children—in general, the few differences in the child-rearing practices among them appeared to be related to aspects of the parents' personalities rather than to the child's handicap, the author found. He also found that their practices in rearing their handicapped children did not differ appreciably from those they used with their normal children.

The author reports a general lack of knowledge among these parents of modern rehabilitative techniques, particularly in regard to aphasic children, and a tendency of parents to find their own way of dealing with their handicapped children through a trial and error method. He, therefore, recommends a program to train parent counselors to work with the parents of handicapped children through the public schools. Problems in communication and learning present more child-rearing difficulties for the parents than sensory deficits in children, he reports.

The author found little evidence to support the "preconceived notion" often held by professional persons that parents of handicapped children are generally "guilt-ridden, anxiety-laden, overprotective, and rejecting beings." He also reports that in no case was there any evidence that the parents had withdrawn into social isolation.

for parents

GUIDING YOUR CHILD FROM 2 TO 5. Molly Mason Jones. Harcourt, Brace & World, Inc., 757 Third Ave., New York, N.Y. 10017. 1968. 366 pp. $8.75.

HOPE THROUGH DOING: the rewards of working for your retarded child and others. J. Norman Heard. The John Day Co., 200 Madison Ave., New York, N.Y. 10016. 1968. 187 pp. $4.50.

LET CHILDREN BE CHILDREN: how modern adults can give wise, loving guidance to boys and girls from infancy through the pre-teen years. Freda S. Kehm and Joe L. Mini. Association Press, 291 Broadway, New York, N.Y. 10007. 1968. 160 pp. $4.95.

IN THE JOURNALS

Rewarding good behavior

An experiment in the use of a token exchange system to reinforce desirable behavior in extremely aggressive, withdrawn, and autistic preschool children is described by five research workers of the Central Midwestern Regional Educational Laboratories, St. Louis, Mo., in the January 1969 issue of *Trans-Action*. ("Changing the Game from 'Get the Teacher' to 'Learn'," by Robert L. Hamblin, David Buckholdt, Donald Bushell, Desmond Ellis, and Daniel Ferritor.) According to the authors, all the children who participated in the experiment are now "on the road to normality."

The educational system described by the authors not only rewards children materially for each act of desired behavior, but also purposely fails to give them the rewards of attention children with behavior problems have learned to expect from adults—that is, bad behavior is ignored while good behavior, in the form of paying attention and responding to the teacher's request, is rewarded with tokens that may be exchanged for something the child values highly, such as play dough, a ride on the swing, a walk outside, or admission to a movie.

In working with four highly aggressive children, the experimenters had first to train the teacher to turn her back on the misbehaving child while rewarding the other children for every act of cooperation they showed. The result was a gradual improvement in behavior in all the children; but their aggression increased when the system was changed to include not only rewards but also punishment by charging tokens for misbehavior. When the original system of rewards only was restored, the aggressive behavior sharply declined. Similarly, a change in the system to reward the children only with signs of approval, continuing to ignore misbehavior, was followed by a rise in aggression, which again fell off when the material rewards were reinstituted.

The authors report similar results in experiments with withdrawn, nonverbal children—some of whom were later complained of by their teachers or parents for "talking to much"—and with children exhibiting the bizarre behavior associated with autism.

All the children, they report, improved not only in behavior, but also in IQ scores. They also report that when the token exchange system was used in teaching reading to a preschool group of normal children, 2-year-olds learned to read as fast and as well as 5-year-olds.

Combating malnutrition

Today some 276 million children are suffering from serious malnutrition in 29 developing countries, according to a statement of the Committee on International Child Health of the American Academy of Pediatrics, published in the January 1969 issue of *Pediatrics*. It points out that protein-calorie malnutrition coupled with infection is the greatest killer of infants and young children in the world today as well as the greatest cause of retarded growth and development.

In the statement, the committee maintains that the eradication of malnutrition will require measures to effect broad technological and social change so that nutritious food will pervade the usual channels of marketing. Under present conditions, however, it points out, food must be shipped into the developing countries from the United States if human need is to be met. It therefore recommends certain guidelines for such shipments. In brief, they are:

- Except in cases of emergency, food from the United States should be donated only to support a long-range national plan for meeting national food needs in the developing countries.
- Such foods should not interfere with the promotion of breast feeding or compete with local nutritious products.
- The foods should contain nutrients otherwise unavailable to children in the quantities needed.
- The foods should be tested for safety, efficiency in inducing growth, acceptability, and actual use.
- The foods should be distributed so as to reach children under 2 who have already experienced some degree of malnutrition or live in areas where malnutrition is prevalent.

Diagnosis in utero

The theoretical possibility that physicians may one day be able to treat certain metabolic diseases, such as galactosemia, in utero is suggested in an unsigned article in the January 24, 1969, issue of *Medical World News*. ("Enzymes in Amniotic Cells Tell Tale of Defects Before Birth.") The article reports on techniques recently developed by two physicians at Northwestern University for determining the presence of genetic disease in a fetus by measuring the enzyme activity of the amniotic fluid cells.

According to the article, the physicians, Henry L. Nadler, pediatrician and geneticist, and Albert Gerbie, obstetrician, have noted that the best time for such analysis is between 12 and 14 weeks of gestation when enzyme activity is highest in amniotic fluid. They are reported to be now working to define normal levels of enzyme activity at various stages of gestation. For example, they have found differences between males and females in the activity of an enzyme known as glucose-6-phosphate dehydrogenase.

Thus far, the article reports, the techniques developed can only determine whether certain genetic defects have been transmitted to the fetus by a carrier, but Dr. Nadler believes it may stimulate the development of treatment techniques which will make physicians "directly responsible for the care of the fetus during its 9 months in utero."

Group care

Children reared in five diverse group care programs—a children's village in Austria, different kinds of children's homes in Poland and Yugoslavia, and Israeli youth villages for teenage immigrants and the youth groups in Israeli kibbutzim for adolescents from deprived families—appear to show little or no intellectual or psychosocial deficiencies when compared with controls

from family environments in the same countries, reports Martin Wolins, professor of social welfare at the University of California, Berkeley, in an article in the January 1969 issue of the quarterly *Social Work*. ("Group Care: Friend or Foe?")

In reexamining the premise that "no group care can be good," the author and his associates tested a number of assumptions about the intellectual, personality, and value development of group-reared children. In 1964 and 1965, batteries of tests were given to 485 children in the five different group care programs and to 304 children reared at home. The study settings ranged in "proximity to a familial model" from family-like cottages with nine children and a motherly caretaker in the Austrian *Kinderdorf* to the youth group in an Israeli kibbutzim consisting of almost 40 teenagers who entered the group in early adolescence. The author observed that in each instance the adults involved regarded the setting as a desirable place in which a child may grow up successfully. "In every instance," the author says, "the staff has accomplished its objective of emulating the parental home or, if that is its choice, drawing a model quite different from it."

Dr. Wolins lists six conditions of group care conducive to good results in changing values and overcoming the effects of previous deprivation in a child: expectations of success; a permanent and unequivocal program and a simultaneous commitment to rear each new child to maturity, social integration within the large milieu, peer impact, socially constructive work, and ideology offering moral anchorage. He concludes that the American professional "must somehow surmount the conflict he experiences around labor, ideology, adolescent peer groups, and the dysfunctional aspects of a well-loved theory."

correction

The article by Helen M. Wallace and associates, "Comprehensive Health Care of Children," abstracted in the "In the Journals" section of the January–February 1969 issue of CHILDREN (page 42) was inadvertently credited to the wrong journal. The article appeared in the October 1968 issue of the *American Journal of Public Health*, not *Public Health Reports*.

READERS' EXCHANGE

ANDRONICO AND GUERNEY: *Comments on commentary*

We welcome the opportunity to respond to the stimulating comments that appeared with our article in the January–February 1969 issue of CHILDREN. ["Case Conference: A Psychotherapeutic Aide in a Headstart Program: I. Theory and Practice," by Michael P. Andronico and Bernard G. Guerney, Jr.; "II. Commentary," by Lois Barclay Murphy, Albert J. Solnit, and Jacob R. Fishman.]

We find ourselves in general agreement with Jacob Fishman's comments regarding the general usefulness of nonprofessional persons in service programs and the desirability of providing career ladders. In regard to career ladders, we can only say that if one were to wait until an entire hierarchy of related jobs is established before beginning to use nonprofessionals, many opportunities for their effective utilization would be missed. Sometimes opportunities for a nonprofessional person's advancement can best be determined as a program proceeds.

With respect to another of Dr. Fishman's points: Clearly further research is needed to determine what forms of therapy are best suited to what problems. We are eager to see other therapeutic methods tried with the use of nonprofessionals and are in fact exploring some ourselves; but we would like to point out that the method proposed by us in the article is one specifically designed to provide the combination of concern, warmth, and firmness that Dr. Fishman notes is so often lacking in the background of ghetto children. It is also one that lends itself to teaching nonprofessional persons (as well as anyone else), because correct in contrast to incorrect types of response are much easier to describe and identify than they are in other therapeutic methods.

We find irrelevant, or are in disagreement with, all of the objections to our article raised by Albert Solnit. Unfortunately, the space allotted to us here does not permit the lengthy response that would be required to answer them. We suggest that interested readers look up the articles referred to in the footnotes of our article, where they will find answers to all of the pertinent points at issue. We will only add that both clinical observations and empirical measures obtained since those articles were written support our rationale for the effectiveness of filial therapy, rather than Dr. Solnit's rationale for its ineffectiveness.

If Dr. Solnit wishes to call the procedures "educational" instead of "therapeutic," we have no very strong objections. As many theorists are now saying, the fewer the theoretical and conceptual barriers erected between that special kind of education of cognition, emotions, and perceptions labeled "psychotherapy" and other types of education, the better it will be for the field of psychotherapy and also for education. We are convinced that the kind of interpersonal atmosphere that promotes the effectiveness of psychotherapy is the same kind of atmosphere that promotes learning in other educational situations.

Thus, we are in accord with the views expressed by Lois Murphy (and also Dr. Fishman) that it would be highly desirable for teachers to be aware of

certain psychotherapeutic principles and practices that they might find useful in their daily work with children. The delicate attunement to the child's individual needs and readiness for involvement, sensitivity to the meaning of his choice of play materials, respect for his inclination to work through his problems in his play, and the attempt to look beyond words to underlying feelings, mentioned by Dr. Murphy as essential for therapists, are central to Rogerian play therapy.

We feel that there likely will always be a significant number of children who, before or along with group experience, would benefit from the kind of special individual attention that a psychotherapeutic aide could give. However, we agree with the idea that the more teachers can apply such skills in everyday class activities, the more their pupils will advance in cognitive and emotional growth. In fact, public school teachers who have had training in the methods of filial therapy have found it very valuable in their work. Thus, Head Start teachers might also find it useful in their work.

However, the trainer of a nonprofessional person must be *specific* about *how* to become more sensitive, *how* to become better at understanding emotional communication, and *how* to become better at conveying acceptance. Moreover, there is no substitute for allowing nonprofessionals to perfect and reinforce these skills *gradually* under supervision. Attempts to train parents, teachers, or aides simply by saying "*be* empathic," or "be empathic *all at once* with *every child* and *all the time*" are certain to end in disappointment.

Exposition of specific principles and rules to adhere to, demonstration, response-by-response instructive feedback, providing the opportunity for the trainee to engage in time-limited practice sessions, and close, extensive professional supervision are at the heart of the filial therapy and psychotherapeutic aide concept. The individual play periods are important because they permit the child to express his feelings and work through his conflicts and problems. But they are also important because they provide the adult with an appropriate setting and vehicle for acquiring and practicing new and very difficult interpersonal skills through which he can develop a special growth-stimulating kind of therapeutic relationship with a child. Only extensive experience and practice of this nature can set the stage for generalization to other times and to other children.

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SENN: *Difference in convictions*

Milton J. E. Senn, in his incisive article, "Early Childhood Education—For What Goals?" (CHILDREN, January–February 1969), reminds us that developmental psychology and early childhood education are together undergoing one of those periodic churnings in which various ancient views reappear as revolutionary new approaches. In fact, neither "cognition" (Piaget and Bereiter) nor psychoanalysis (Spitz or Deutsch) is new—new, that is, in the sense of offering us new goals for education or new developmental principles. Basically, we have an old controversy in new clothing (but even some of the clothing is a bit tattered and torn), one, as Dr. Senn says, between "structured" (and speeded up) teaching methods and "flexible" (and leisurely) methods.

But surely the educational goals of the two camps—regardless of which camp is to be manned by the good guys—are not different, and Dr. Senn confuses me when he puts the matter in terms of goals. Surely both camps seek an outcome in informed, curious, intelligent, stable, and humane men and women. The true differences lie in the various convictions about what the educator (or psychologist) at the other end of the pendulum's swing is leaving out: Dr. Senn thinks (as I do) that the "structured" folk too often omit consideration of the nonintellective aspects of development; in turn, the new converts-to-the-cognitive seem to think that Barbara Biber's kind of nursery school is a warm, friendly nest for fostering good human relationships but with no concern for facts or thinking.

But I am perfectly willing to view the issue strictly in terms of cognitive development and to assert that the "flexible" approach—the richly stimulating, choice-giving nursery school—will produce better *cognitive* results than the "structured" approach, with emphasis on drill in selected, delimited content areas and the implication that if I haven't taught it you haven't learned it. Moreover, I feel that there is solid evidence to support my assertion—and if I am reading the evidence with bias, so is everyone else. Incontrovertible findings are lacking in this field.

My greatest concern with teaching methods like those of Bereiter and Engelmann is that they offer the child a *cognitively barren* preschool experience. It is not just the emphasis on how to say it; not just that the teacher selects what is to be talked about, but the stultifying, repetitive narrowness of content that troubles me, in the same ways that I am troubled by the third grade classroom in which 27 children, in turn, read the same paragraph of the reader aloud.

Skills are like knives and forks: they are tools, but they don't supply a meal.

L. Joseph Stone
Chairman, Department of Psychology
Vassar College, Poughkeepsie, N.Y.

Pendulum askew

Dr. Senn's article on early childhood education is a well-stated, elder-statesmanlike caution to impatient enthusiasts who seek demonstrable results immediately. It reminds us that the growth of a child is much more than mastery of a few discrete skills, and underlines the complexity of the task of preschool education.

We can profit from Dr. Senn's reminder that the pendulum has swung too far toward ever-earlier stimulation of the child, regardless of his individual nature, and at the same time in an ever-narrower arc, confined to intellectual development alone. The fashion in research topics—given impetus by those who grant Federal funds and those who direct academic theses—seems today to favor a tidy design that appears to control all the variables because the questions asked are so miniscule. Dr. Senn is right in cautioning preschool educators to avoid construing into cosmic proportions achievement in understanding a small part of the organism. However, we are still in such a beginning stage of learning how children *do* learn that we must take one small clearly defined step at a time.

As a member of "the establishment" in early childhood education, I must admit that my training emphasized the

social and emotional growth of children and gave very short shrift to the means of stimulating children intellectually. "Cognitive development" was almost a forbidden phrase, probably because of the failure of early studies to show any long-term gains in intelligence as a result of attending nursery school. Those who believed, in spite of these studies, that nursery school was good for children undertook to give their pupils a good start in other realms. The sharp criticism of present research workers has been salutory for the field. Members of the establishment have covertly moved toward a more wholesome emphasis on the intellectual potential of the early years because they have been forced to examine what the nursery school was doing in this sphere. When I visit a nursery school today that has not acceded to the last decade's trend to emphasize learning along with social and emotional development, I am frankly surprised to see how much it differs from the more modern nursery school.

Actually, however, I think that the goals of the two groups Dr. Senn identifies are not widely disparate. Parents, teachers, even research workers everywhere have such patently laudable goals as encouraging "creativity and individuality," stimulating "curiosity and initiative in children," and helping "children find themselves as individuals—learners, doers, persons with feelings, increasing clarity as to their identities and appropriate roles in life."

One of the greatest frustrations for people who seek to create good environments for children is in devising the means to achieve these goals. How to plan a curriculum to give children the kind of experiences that will produce these intended results has long evaded the most dedicated of educators. Moreover, our evaluative instruments to measure the qualities sought seem to remain as crude as our efforts to measure real intellectuality as opposed to intelligence. We simply do not have very solid information about how to create environments which are guaranteed to produce creativity, or curiosity, or a clear sense of identity, nor do we have instruments which will evaluate environments in these terms.

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guides and reports

CHILD WELFARE LEAGUE OF AMERICA STANDARDS FOR ADOPTION SERVICE: REVISED. Child Welfare League of America, 44 East 23d St., New York, N.Y. 10010. 1968. 99 pp. $2.

The first revision of the League's standards for adoption services originally issued in 1958.

REPORT TO THE NATION ON CHILDREN AND YOUTH. Ruth Stout Wright. National Committee for Children and Youth, 1145 19th St. NW, Washington, D.C. 20036. 1968. 135 pp. $2.75.

Describes developments at local, State, and national levels to follow up the 1960 White House Conference on Children and Youth.

THE POLICE ON THE URBAN FRONTIER: a guide to community understanding. George Edwards. Institute of Human Relations Press, The American Jewish Committee, 165 East 56th St., New York, N.Y. 10022. 1968. 90 pp. $1.

Discusses the role and problems of the police in urban areas and offers suggestions for steps to better relations between the police and the Negro community.

FILM RESOURCES FOR SEX EDUCATION. Sex Information and Education Council of the U.S., 419 Park Ave. South, New York, N.Y. 10016. 1968. 27 pp. 50 cents. Discount on quantity orders.

Lists 49 films on biology and reproduction, maturation, dating and marriage, social problems, and school and community action.

PROCEEDINGS OF THE FIRST CONGRESS OF THE INTERNATIONAL ASSOCIATION FOR THE SCIENTIFIC STUDY OF MENTAL DEFICIENCY (Montpellier, France, Sept. 12–20, 1967). Edited and distributed by B. W. Richards, St. Lawrence's Hospital, Caterham, Surrey, CR3 5YA, England. 1968. 982 pp. $20, plus postage.

Includes full text of 88 of the major papers presented at the conference and abstracts of the remainder, representing over 500 authors from some 40 countries. Some of the papers are in French, some in English, with summaries in the other language.

A HANDBOOK OF HEALTH EDUCATION. Department of Education and Science. Her Majesty's Stationery Office, London, England. U.S. Distributor: British Information Services, 845 Third Ave., New York, N.Y. 10022. 1968. 184 pp. $3.

Discusses the historical development of health education in England, the school's role, community health, and health education for youth, adults, parents, and teachers.

NATIONAL RESEARCH CONFERENCE ON DAY PROGRAMS FOR HEARING IMPAIRED CHILDREN. Ann M. Mulholland and George W. Fellendorf. Alexander Graham Bell Association for the Deaf, The Volta Bureau, 1537 35th St. NW, Washington, D.C. 20007. 1968. 168 pp. $3.

Contains the papers, summaries of discussions, and conclusions of a conference on nonresident school programs for children with hearing impairments and resultant recommendations for comprehensive State and local programs.

U.S. Government Publications

Publications for which prices are quoted are for sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. Orders should be accompanied by payment. Twenty-five percent discount on quantities of 100 or more.

HEW refers to Department of Health, Education, and Welfare; SRS, to Social and Rehabilitation Service.

CRIPPLED CHILDREN'S PROGRAMS: statistical highlights, 1966. Sheldon Shalit. HEW, SRS, Children's Bureau. CB Statistical Series No. 91. 1968. 49 pp. Single copies free from the Bureau.

Reports, through 20 tables and text, data on children served under State crippled children's programs in 1966, by types and volume of services, age, sex, and race of children, and types of handicapping conditions.

CHILD CARE ARRANGEMENTS OF WORKING MOTHERS IN THE UNITED STATES. Seth Low and Pearl G. Spindler. HEW, SRS, Children's Bureau, and Department of Labor, Wage and Labor Standards Administration, Women's Bureau. CB Publication No. 461. 1968. 115 pp. $1.25.

Through 136 tables and text, reports estimated numbers and percentages of working mothers of children under 14 years of age, and types and frequency of use of child care arrangements, by characteristics of mothers and children. The estimates are based on data from a national survey conducted in February 1965 by the Bureau of the Census. (See CHILDREN, July–August 1965, p. 159.)

A COMMUNITY MENTAL HEALTH APPROACH TO DRUG ADDICTION. Richard Brotman and Alfred Freedman, M.D. HEW, SRS, Office of Juvenile Delinquency and Youth Development. JD Publication No. 9005, 1968. 137 pp. $1.

Proposes techniques that make use of community resources in social rehabilitation of drug users.

LICENSING OF CHILD CARE FACILITIES BY STATE WELFARE DEPARTMENTS: a conceptual statement. Norris E. Class. HEW, SRS, Children's Bureau. CB Publication No. 462. 1968. 63 pp. 35 cents.

Analyzes the structural and operational aspects of child-care licensing programs in public welfare departments.

GOOD REFERENCES ON DAY CARE. Federal Panel on Early Childhood. HEW, SRS, Children's Bureau. July 1968. 22 pp. Single copies free from the Bureau.

Lists, with annotations, 71 books, pamphlets, and articles under the following subject heads: day-care guides and standards; environmental standards; education and child development; social services; health and nutrition; training of staff; parent involvement; administration and coordination; and evaluation.

GOOD CAMPING FOR CHILDREN AND YOUTH OF LOW-INCOME FAMILIES: Some suggestions for camps concerned about providing equal opportunities for children and youth. Catherine V. Richards. HEW, SRS, Children's Bureau. CB Publication No. 463. 1968. 20 pp. 30 cents.

Gives suggestions for camps on selecting young people from low-income families, orienting such campers, and using camping for adventure, self-development, and fun.

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